

Financial reporting developments

*A comprehensive guide*

# Asset retirement obligations

Revised June 2023



# To our clients and other friends

Asset retirement obligations are legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development and/or the normal operation of such assets. This publication is designed to assist professionals in understanding the accounting for asset retirement obligations. This publication reflects our current understanding of this guidance based on our experience with financial statement preparers and related discussions with the staff of the Financial Accounting Standards Board (FASB or Board) and the Securities and Exchange Commission (SEC). EY professionals are prepared to help you identify and understand the issues related to the accounting for asset retirement obligations.

*Ernst + Young LLP*

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Notice to readers:

This publication includes excerpts from and references to the Financial Accounting Standards Board (FASB or Board) Accounting Standards Codification (Codification or ASC). The Codification uses a hierarchy that includes Topics, Subtopics, Sections and Paragraphs. Each Topic includes an Overall Subtopic that generally includes pervasive guidance for the topic and additional Subtopics, as needed, with incremental or unique guidance. Each Subtopic includes Sections that in turn include numbered Paragraphs. Thus, a Codification reference includes the Topic (XXX), Subtopic (YY), Section (ZZ) and Paragraph (PP).

Throughout this publication references to guidance in the codification are shown using these reference numbers. References are also made to certain pre-codification standards (and specific sections or paragraphs of pre-Codification standards) in situations in which the content being discussed is excluded from the Codification.

This publication has been carefully prepared, but it necessarily contains information in summary form and is therefore intended for general guidance only; it is not intended to be a substitute for detailed research or the exercise of professional judgment. The information presented in this publication should not be construed as legal, tax, accounting, or any other professional advice or service. Ernst & Young LLP can accept no responsibility for loss occasioned to any person acting or refraining from action as a result of any material in this publication. You should consult with Ernst & Young LLP or other professional advisors familiar with your particular factual situation for advice concerning specific audit, tax or other matters before making any decisions.

# 1 Overview

## 1.1 Introduction

The accounting guidance in ASC 410-20 applies to legal obligations associated with the retirement of long-lived assets that result from the acquisition, construction, development and/or the normal operation of a long-lived asset. A legal obligation is an obligation that a party is required to settle as a result of an existing or enacted law, statute, ordinance, or written or oral contract, or that is based on a promise and an expectation of performance (e.g., under the doctrine of promissory estoppel).

An asset retirement obligation (ARO) initially should be measured at fair value and should be recognized at the time the obligation is incurred (provided that a reasonable estimate of fair value can be made). For example, certain obligations, such as nuclear decommissioning costs, generally are incurred as the asset is operated. Other obligations, like the obligation to remove an offshore drilling platform, may be incurred as the asset is being constructed.

Upon initial recognition of a liability for retirement obligations, an entity should capitalize that cost as part of the cost basis of the related long-lived asset and depreciate the asset over its useful life. Changes in the obligation due to revised estimates of the amount or timing of cash flows required to settle the future liability should be recognized by increasing or decreasing the carrying amount of the ARO liability and the related long-lived asset. Changes due solely to the passage of time (i.e., accretion of the discounted liability) should be recognized as an increase in the carrying amount of the liability and as an expense classified as an operating item in the income statement and referred to as accretion expense (or any other descriptor that conveys the nature of the expense).

ASC 820 serves as the primary guidance regarding fair value measurements in GAAP. Although the FASB acknowledges that many asset retirement obligations cannot be settled in current transactions with third parties and that some entities will perform the retirement activities themselves, the ARO must be measured at fair value. If the obligation is settled using the entity's own resources, the entity may recognize a gain or loss (the difference between the liability measured at fair value and the actual costs incurred) upon completion of the retirement activities.

## 1.2 Definition of terms

### Excerpt from Accounting Standards Codification

#### Master Glossary

#### *Accretion Expense*

An amount recognized as an expense classified as an operating item in the statement of income resulting from the increase in the carrying amount of the liability associated with the asset retirement obligation.

#### *Asset Retirement Obligation*

An obligation associated with the retirement of a tangible long-lived asset.

#### *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.

***Fair Value***

The price that would be received to sell an asset or paid to transfer a liability in an **orderly transaction** between **market participants** at the measurement date.

***Legal Obligation***

An obligation that a party is required to settle as a 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.

***Promissory Estoppel***

"The principle that a promise made without consideration may nonetheless be enforced to prevent injustice if the promisor should have reasonably expected the promisee to rely on the promise and if the promisee did actually rely on the promise to his or her detriment." (See Black's Law Dictionary, seventh edition.)

***Retirement***

The other-than-temporary removal of a long-lived asset from service. That term encompasses sale, abandonment, recycling, or disposal in some other manner. However, it does not encompass the temporary idling of a long-lived asset. After an entity retires an asset, that asset is no longer under the control of that entity, no longer in existence, or no longer capable of being used in the manner for which the asset was originally acquired, constructed, or developed.

# 2

## Scope

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

##### *Scope and Scope Exceptions*

##### *Transactions*

##### **410-20-15-1**

The guidance in this Subtopic applies to all entities, including rate-regulated entities that meet the criteria for application of Subtopic 980-10, as provided in paragraph 980-10-15-2. Paragraphs 980-340-25-1 and 980-405-25-1 provide specific conditions that must be met to recognize a regulatory asset and a regulatory liability, respectively. (See paragraphs 410-20-55-1 through 55-12 and 410-20-55-21 through 55-22 for implementation guidance)

##### **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 leased property that meet the provisions in (a). Paragraph 840-10-25-16 requires that lease classification tests performed in accordance with the requirements of Subtopic 840-10 incorporate the requirements of this Subtopic to the extent applicable.
- 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.



**Pending Content:**

**Transition Date:** (P) December 16, 2018; (N) December 16, 2021 | **Transition Guidance:** 842-10-65-1

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.

**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 leased property, whether imposed by a lease agreement or by a party other than the lessor, that meet the definition of either minimum lease payments or contingent rentals in paragraphs 840-10-25-4 through 25-7. Those obligations shall be accounted for by the lessee in accordance with the requirements of Subtopic 840-10. However, if obligations of a lessee in connection with leased property, whether imposed by a lease agreement 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 minimum lease payments or contingent rentals in paragraphs 840-10-25-4 through 25-7, 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.

### Pending Content:

**Transition Date:** (P) December 16, 2018; (N) December 16, 2021 | **Transition Guidance:** 842-10-65-1

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.

The guidance in ASC 410-20 applies to all entities (including not-for-profit entities and rate-regulated entities) that incur legal obligations for the retirement of tangible long-lived assets that result from the acquisition, construction, development and/or the normal operation of a long-lived asset. This includes all AROs incurred any time during the life of an asset and not just those incurred during the acquisition and early operation stages.

Various industries and entities are affected differently by ASC 410-20. In addition to public utilities, oil and gas producers, and mining entities that are typically thought to incur AROs, other entities may find that they also are subject to the requirements of ASC 410-20. For example, a commercial entity that builds a waste storage facility that must be removed at the end of its economic useful life because of regulatory or statutory requirements would have an ARO that must be recognized.

## 2.1

### Determining whether a legal obligation exists

#### Excerpt from Accounting Standards Codification

##### Asset Retirement Obligations

##### *Implementation Guidance and Illustrations*

##### *Determination of Whether a Legal Obligation Exists*

##### **410-20-55-1**

This implementation guidance illustrates Section 410-20-15. In most cases involving an **asset retirement obligation**, the determination of whether a **legal obligation** exists should be unambiguous. However, in situations in which no law, statute, ordinance, or contract exists but an entity makes a promise to a third party (which may include the public at large) about its intention to perform **retirement** activities, facts and circumstances need to be considered carefully in determining whether that promise has imposed a legal obligation upon the promisor under the doctrine of **promissory estoppel**. A legal obligation may exist even though no party has taken any formal action. In assessing whether a legal obligation exists, an entity is not permitted to forecast changes in the law or changes in the interpretation of existing laws and regulations. Preparers and their legal advisors are required to evaluate current circumstances to determine whether a legal obligation exists.

The guidance in ASC 410-20 applies to legal obligations associated with the retirement of a tangible long-lived asset that can result from:

- ▶ A government action, such as a law, statute or ordinance
- ▶ An agreement between entities, such as a written or oral contract
- ▶ A promise conveyed to a third party that imposes a reasonable expectation of performance upon the promisor under the doctrine of promissory estoppel

Legal obligations generally result in an entity having little or no discretion to avoid a future transfer of assets because the consequences of nonperformance likely would result in legal action.

Examples may include:

- ▶ Removal of leasehold improvements (including legal obligations of the lessor or the lessee, provided that the obligations are not included in lease payments under ASC 842 (minimum lease payments under ASC 840) or variable lease payments under ASC 842 (contingent rentals under ASC 840) as defined in the general provisions of accounting for leases in ASC 842 (ASC 840); see further discussion in section 2.3, *Leases*)
- ▶ Decommissioning of nuclear facilities
- ▶ Dismantlement or removal of offshore oil and gas production facilities and the “plugging and abandonment” of onshore oil and gas wells
- ▶ Reclamation, closure and post-closure obligations associated with mining activities
- ▶ Closure and post-closure obligations associated with landfills
- ▶ Closure and post-closure obligations associated with certain hazardous waste storage facilities
- ▶ Reforestation of land subject to a timber lease
- ▶ Disposition of contaminated materials at special hazardous waste sites
- ▶ Removal and disposition of asbestos (unless it results from other-than-normal operation of the asset, which may be subject to the provisions of ASC 410-30)

In some cases, the determination of whether a legal obligation exists is clear. For instance, retirement, removal or closure obligations may be imposed by government units that have responsibility for oversight of an entity’s operations or by agreement between two or more parties, such as a lease or right-of-use agreement.

In situations in which no law, statute, ordinance or contract exists, but an entity makes a promise to a third party (which may include the public at large) about its intention to perform retirement activities, facts and circumstances need to be considered carefully and significant judgment may be required to determine if a retirement obligation exists. Those judgments should be made within the framework of the doctrine of promissory estoppel.

ASC 410-20-55-2 provides the following example of an ARO resulting from the doctrine of promissory estoppel.

**Illustration 2-1: Determination of whether a legal obligation exists (ASC 410-20-55-2)**

Assume an entity operates a manufacturing facility and has plans to retire it within five years. Members of the local press have begun to publicize the fact that when the entity ceases operations at the plant, it plans to abandon the site without demolishing the building and restoring the underlying land. Due to the significant negative publicity and demands by the public that the entity commit to dismantling the plant upon retirement, the entity’s chief executive officer holds a press conference at city hall to announce that the entity will demolish the building and restore the underlying land when the entity ceases operations at the plant. Although no law, statute, ordinance or written contract exists requiring the entity to perform any demolition or restoration activities, the promise made by the entity’s chief executive officer may have created a legal obligation under the doctrine of promissory estoppel. In that circumstance, the entity’s management (and legal counsel, if necessary) would have to evaluate the particular facts and circumstances to determine whether a legal obligation exists.

Promissory estoppel requires that there be a promise that was reasonably relied upon that results in a detriment to the promisee. In the above example, if new residents rely on the entity's commitment when deciding to purchase a home near the plant and the abandonment of the plant without restoring the underlying land could result in a decline in the value of homes in the area, the entity may have a legal obligation to restore the land. The entity's management (and legal counsel, if necessary) would have to evaluate the particular facts and circumstances to determine whether a legal obligation exists.

Additionally, a legal obligation may exist even though no party has taken any formal action to enforce it (ASC 410-20-55-1). In assessing whether a legal obligation exists, an entity is not permitted to forecast changes in the law or changes in the interpretation of existing laws and regulations. Entities and their legal advisers must evaluate current facts and circumstances to determine whether a legal obligation exists.

### 2.1.1 Obligating event

#### Excerpt from Accounting Standards Codification

##### Asset Retirement Obligations

##### *Implementation Guidance and Illustrations*

##### *Determination of Whether a Legal Obligation Exists*

##### **410-20-55-3**

Once an entity determines that a duty or responsibility exists, 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. If such an obligating event has occurred, an asset retirement obligation meets the definition of a liability and qualifies for recognition in the financial statements. However, if an obligating event that leaves an entity little or no discretion to avoid the future transfer or use of assets has not occurred, an asset retirement obligation does not meet the definition of a liability and, therefore, should not be recognized in the financial statements.

##### **410-20-55-4**

Identifying the obligating event is often difficult, especially in situations that involve the occurrence of a series of transactions or other events or circumstances affecting the entity. For example, in the case of an asset retirement obligation, a law or an entity's promise may create a duty or responsibility, but that law or promise in and of itself may not be the obligating event that results in an entity's having little or no discretion to avoid a future transfer or use of assets. An entity must look to the nature of the duty or responsibility to assess whether the obligating event has occurred. For example, 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.

An asset retirement obligation is only recognized if an obligating event that leaves little or no discretion to avoid the future transfer of assets has occurred. An obligating event may arise from the acquisition, construction, development and/or normal operation of an asset. Enactment of a new law may also represent an obligating event.

#### **Illustration 2-2: ARO resulting from use (normal operation)**

Entity A builds a new underground storage tank for \$500,000. According to state law, Entity A is responsible for reclamation of the ground from contamination. However, no obligation exists until the storage tank is used and contamination occurs. Therefore, the contamination constitutes the obligating event and an obligation is not required to be recognized until the storage tank is used and contamination occurs.

**Illustration 2-3: ARO resulting from construction**

Entity B constructs a new offshore production platform that will be affixed in the shallow waters off the Gulf Coast. Entity B has a legal obligation to dismantle and remove the platform once it is no longer being used. In this case, the obligation to remove the facility is incurred as the asset is being constructed and does not change with the operation of the asset or the passage of time (although the amount of the recognized obligation will change due to accretion and any subsequent revisions).

**Illustration 2-4: ARO resulting from a new law**

Assume a new law requires an entity to dismantle an existing manufacturing site and restore the site and surrounding area when operations cease. In that case, the recognition of a liability for the new obligation would be required on the date the law was enacted. The entity may not anticipate the enactment of the new law in determining when to recognize a liability for the obligation.

**European Union Directive 2002/96/EC**

EU Directive 2002/96/EC (Directive) was adopted on 13 February 2003; it directs EU member countries to adopt legislation to regulate the collection, treatment, recovery and environmentally sound disposal of electrical and electronic waste equipment. Various states in the US have also begun to adopt similar legislation related to the disposal of electronic waste. The guidance in ASC 410-20 clarifies that the obligation to dispose of historical waste under the Directive is an ARO and explains how to account for the ARO. Entities should look to the guidance in ASC 410-20-55-23 through 55-30 and the related examples in ASC 410-20-55-63 through 55-67 to account for obligations to dispose of historical waste.

**2.1.2****Expectation of nonenforcement****Excerpt from Accounting Standards Codification****Asset Retirement Obligations***Implementation Guidance and Illustrations**Expectation of Nonenforcement***410-20-55-5**

This implementation guidance illustrates Section 410-20-15. Contracts between entities may contain an option or a provision that requires one party to the contract to perform retirement activities when an asset is retired. The other party may decide in the future not to exercise the option or to waive the provision to perform retirement activities, or that party may have a history of waiving similar provisions in other contracts. Even if there is an expectation of a waiver or nonenforcement, the contract still imposes a legal obligation. That obligation is included in the scope of this Subtopic. The likelihood of a waiver or nonenforcement will affect the measurement of the liability. For example, consider an entity that owns and operates a landfill. Regulations require that that entity perform capping, **closure**, and postclosure activities. Capping activities involve covering the land with topsoil and planting vegetation. Closure activities include drainage, engineering, and demolition and must be performed prior to commencing the postclosure activities. Postclosure activities, the final retirement activities, include maintaining the landfill once final certification of closure has been received and monitoring the ground and surface water, gas emissions, and air quality. Closure and postclosure activities are performed after the entire landfill ceases receiving waste (that is, after the landfill is retired). However, 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 continues to accept waste does not remove the obligation to perform those intermediate capping activities from the scope of this Subtopic.

### ***Obligations with Uncertainty About Government Enforcement***

#### ***410-20-55-12***

This implementation guidance illustrates Section 410-20-15. If, for example, a governmental unit retains the right (an option) to decide whether to require a retirement activity, there is some uncertainty about whether those retirement activities will be required or waived. Regardless of the uncertainty attributable to the option, a legal obligation to stand ready to perform retirement activities still exists, and the governmental unit might require them to be performed. Although the timing and method of settlement of the retirement obligation may depend on future events that may or may not be within the control of the entity, a legal obligation to stand ready to perform retirement activities still exists. The entity should consider the uncertainty about the timing and method of settlement in the measurement of the liability, consistent with a fair value measurement objective, regardless of whether the event that will trigger the settlement is partially or wholly under the control of the entity.

A contract between entities may contain an option or a provision that requires one party to the contract to perform retirement activities when an asset is retired. The other party, however, may have a history of waiving the provision to perform retirement activities in this circumstance. Even if there is an expectation of a waiver or non-enforcement based on historical experience, the contract still imposes a legal obligation that is included in the scope of ASC 410-20 (i.e., even if the likelihood of performing the retirement activities is remote, a legal obligation still exists that is required to be recognized). However, the likelihood of a waiver or non-enforcement will affect the measurement of the liability.

#### **Illustration 2-5: Expectation of nonenforcement**

Zippy Stores, a prominent clothing retailer, enters into a 50-year land lease and builds a large retail emporium (i.e., a leasehold improvement that it recognizes as an asset). Under the terms of the lease, Zippy is required to return the land to its original use at the end of the 50-year lease. Although historical experience indicates that Zippy may not have to actually tear down the store in 50 years, Zippy still must recognize a liability. The uncertainty regarding whether Zippy will be required to perform the teardown should be considered when measuring the fair value of the liability.

## 2.2

### **Replacements and components of larger assets**

#### **Excerpt from Accounting Standards Codification**

##### **Asset Retirement Obligations**

##### ***Implementation Guidance and Illustrations***

##### ***Components of a Larger System***

#### ***410-20-55-9***

An asset retirement obligation may exist for component parts of a larger system. In some circumstances, the retirement of the component parts may be required before the retirement of the larger system to which the component parts belong.

##### ***Interim Property Retirements***

#### ***410-20-55-21***

This implementation guidance illustrates Section 410-20-15. There is no conceptual difference between interim property retirements and replacements and those retirements that occur in circumstances in which the retired asset is not replaced. Therefore, any asset retirement obligation associated with the retirement of or the retirement and replacement of a component part of a larger system qualifies for recognition provided that the obligation meets the definition of a liability. The cost of replacement components is excluded.

**410-20-55-22**

Examples of interim property retirements and replacements for component parts of larger systems are components of transmission and distribution systems (utility poles), railroad ties, a single oil well that is part of a larger oil field, and aircraft engines. The assets in those examples may or may not have associated retirement obligations.

ASC 410-20 does not apply to ordinary maintenance activities performed to keep an asset operational. However, it does apply to obligations associated with the legal obligation to retire a component of an asset, including a component that requires removal and replacement prior to the end of the life of the larger system. The cost of replacement of a component is not included in the ARO.

**Illustration 2-6: Maintenance cost versus retirement obligation**

The planned replacement of utility poles by a telecommunications entity to maintain consistent service, with no legal requirement to replace the poles, is not an asset retirement obligation. The costs of removing the old poles, as well as the costs of replacing them with new poles, are not related to a legal obligation and, therefore, are not subject to ASC 410-20.

However, if the telecommunications entity's retirement of the poles was subject to legal requirements with respect to how the poles are disposed of, it could not avoid that disposal obligation because the poles would not last forever. The costs of disposing of the poles would meet the definition of an asset retirement obligation.

ASC 410-20-55-10 provides the following example of an ARO associated with a component of an asset.

**Illustration 2-7: ARO for a component of an asset (ASC 410-20-55-10)**

An aluminum smelter owns and operates several kilns lined with a special type of brick. The kilns have a long useful life, but the bricks wear out after approximately five years of use and are replaced on a periodic basis to maintain optimal efficiency of the kilns. Because the bricks become contaminated with hazardous chemicals while in the kiln, a state law requires that when the bricks are removed, they must be disposed of at a special **hazardous waste** site. The obligation to dispose of those bricks is within the scope of this Subtopic. The cost of the replacement bricks and their installation are not part of that obligation. This implementation guidance illustrates Section 410-20-15.

Because the kilns have a significantly longer useful life than the bricks, the aluminum smelter will recognize and settle multiple AROs over the life of the kilns.

## 2.3

### Leases

ASC 842, *Leases*, requires lessees to put most leases on their balance sheets but recognize expenses on their income statements in a manner that is similar to the accounting under ASC 840, *Leases*. The guidance also eliminates the real estate-specific provisions for all entities. ASC 842 does not make fundamental changes to the lessor accounting model. However, the guidance modifies what qualifies as a sales-type and direct financing lease as well as the related accounting.



The standard was effective for public not-for-profit entities<sup>1</sup> that had not issued (or made available for issuance) financial statements that reflect the new standard as of 3 June 2020 for annual periods beginning after 15 December 2019, and interim periods within those annual periods. The standard was effective for private companies and private not-for-profit entities for annual periods beginning after 15 December 2021, and interim periods within annual periods beginning after 15 December 2022. Early adoption was permitted. The standard was effective for all other entities for annual periods beginning after 15 December 2018 (i.e., 1 January 2019 for a calendar-year public entity), and interim periods within those years.

### 2.3.1 Before the adoption of ASC 842

The provisions of ASC 410-20 do not apply to obligations of a lessee in connection with leased property, whether imposed by a lease agreement or by a party other than the lessor, that meet the definition of either minimum lease payments or contingent rentals in ASC 840. Instead, obligations that are considered either minimum lease payments or contingent rentals should continue to be accounted for in accordance with ASC 840. However, as noted in ASC 840-10-60-1, obligations imposed by a lease agreement that meet the definition of an ARO and do not meet the definition of minimum lease payments or contingent rentals are accounted for by the lessee in accordance with the requirements of ASC 410-20.

ASC 840 does not apply to leases to explore or exploit natural resources, thus any retirement obligations imposed by these types of agreements always are within the scope of ASC 410-20.

Minimum lease payments are the payments that the lessee is obligated to make or can be required to make in connection with the leased property. This definition has been interpreted fairly broadly to cover not only payments required to be made to the lessor but also obligations imposed on the lessee under the lease that may be paid to third parties. For example, an obligation for a lessee to dismantle and remove a leased asset (removal costs) at the end of the lease term is recognized as a component of minimum lease payments. In an operating lease this means that the removal costs are effectively accrued over the lease term and in a capital lease the obligations are included in capital lease obligations. For more information on the inclusion of removal costs within minimum lease payments, refer to section 2.9.1.6, *Lessee's obligations for asset retirement obligations (AROs)*, of our Financial reporting developments (FRD) publication, ***Lease accounting: Accounting Standards Codification 840, Leases***.

Contingent rentals are defined in ASC 840-10-20 as:

The increases or decreases in lease payments that result from changes occurring after lease inception in the factors (other than the passage of time) on which lease payments are based, excluding any escalation of minimum lease payments relating to increases in construction or acquisition cost of the leased property or for increases in some measure of cost or value during the construction period or pre-construction period. The term *contingent rentals* contemplates an uncertainty about future changes in the factors on which lease payments are based.

Lease payments that depend on a factor directly related to the future use of the leased property, such as machine hours or sales volume during the lease term, are contingent rentals and, accordingly, are excluded from minimum lease payments in their entirety. Increases or decreases in lease payments that result from contingent rentals are included in income as accruable.

Obligations imposed by a lease agreement to return a leased asset to its original condition (if it has been modified by the lessee) generally do not meet the definition of a minimum lease payment or contingent rental and, therefore, should be accounted for by the lessee as an ARO. Said another way, if an improvement to leased property has been recognized as an asset on the lessee's balance sheet (leasehold improvements), any obligation to remove that improvement upon expiration of the lease should generally be accounted

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<sup>1</sup> A not-for-profit entity that has issued or is a conduit bond obligor for securities traded, listed or quoted on an exchange or over-the-counter market.

for as an ARO. For example, a lessee who leases retail space and installs its own improvements (e.g., customized décor and logo) would have an obligation to remove the leasehold improvements at the expiration of the lease. The obligation to remove the leasehold improvements does not arise solely because of the lease but instead is a direct result of the lessee's decision to modify the leased space. Such costs would be excluded from minimum lease payments (and contingent rentals).

In certain circumstances, it may be difficult to determine whether improvements are assets of the lessee or the lessor. In many cases the conclusion, which can affect the determination as to whether removal costs should be accounted for under ASC 840 or as an ARO, will be based on the specific facts and circumstances. Refer to section 4.3.4.2, *Who owns the improvements?*, of our FRD, ***Lease accounting: Accounting Standards Codification 840, Leases***, for further guidance relating to determining whether improvements should be considered assets of the lessee or the lessor.

The following examples serve to illustrate the above concepts:

#### **Illustration 2-8: Obligation as a result of a lease contract**

##### **Land with cellular tower**

Entity A (lessee) leases vacant land from Entity B (lessor). Entity A has the right but not the obligation to construct a cellular tower on the property. If Entity A does construct the cellular tower on the property, it is obligated to return the land to its original condition at the end of the lease term. In this case, it is not the lease of the land that imposes the liability on Entity A but instead is the construction of the cellular tower. If Entity A does not construct the cellular tower, it has no obligation under the lease. If it does construct the cellular tower, the tower would be recognized as a leasehold improvement and the obligation to remove the tower would be an ARO.

Alternatively, if Entity A leases land and an existing cellular tower from Entity B and is required to demolish and remove the cellular tower at the end of the lease term, Entity A has assumed a direct obligation related to the leased asset that arises upon entering into the lease (versus an obligation created by some future action). As a result, the demolition and removal costs should be included in minimum lease payments. By including the retirement obligation in minimum lease payments, the retirement obligation will be accrued over the term of the operating lease (on a basis such that rent expense consisting of both cash payments and accrual of the retirement obligation is recognized on a straight-line basis over the lease term) so that, on termination of the lease, a liability exists that would be reduced by the payments made to demolish and remove the cellular tower.

##### **Lease of office space**

An entity leases office space with preexisting improvements (e.g., interior walls and carpeting) and is contractually obligated to remove these improvements upon expiration of the lease. Because the original condition of the leased space included the improvements and the entity is leasing the space and improvements, the estimated removal obligation should be included in minimum lease payments.

Alternatively, if the entity pays to build out the space to configure it to its needs (e.g., interior walls and carpeting) and is required to remove the improvements on expiration of the lease, it should account for the removal obligation as an ARO. The entity is obligated to remove an asset that it constructed and recorded as an asset (i.e., leasehold improvement).

If the entity leases office space with both preexisting improvements and additional leasehold improvements that it constructs, estimated costs to remove the improvements should be split between the preexisting improvements and the constructed improvements. Estimated costs to remove the preexisting improvements should be included in minimum lease payments. The contractual obligation associated with the removal of the leasehold improvements constructed by the entity should be accounted for as an ARO.

**Illustration 2-9: Obligation as a result of a legal obligation**

Entity A (lessor) owns a gas station that it leases to Entity B (lessee). The property includes preexisting underground fuel storage tanks.

**Scenario 1**

At the inception of the lease, there is a legal requirement to remove the preexisting underground fuel storage tanks in 10 years. Even though Entity A leases the gas station to another party, it remains legally obligated for removal of the underground storage tanks and must recognize an ARO.

If the lease agreement requires Entity B to remove the underground storage tanks at the end of the lease term, the cost of removal would be included in the minimum lease payments by Entity B and would have no effect on the requirement for Entity A to recognize an ARO under ASC 410-20 for its obligation under the local statute.

**Scenario 2**

At the inception of the lease, there is no legal requirement for removal of the underground storage tanks. However, the lease requires that if such a legal requirement is enacted during the lease term, Entity B is required to remove the underground storage tanks at the end of the lease.

Recognition of an ARO by Entity A for an obligation to remove the underground storage tanks would be required on the date any such legal requirement was enacted. The entity may not anticipate the enactment of a new law in determining whether to recognize a liability for the obligation.

Whether the estimated costs of removal of the underground storage tanks would be accounted for by Entity B as a contingent rental at the inception of the lease or as a minimum lease payment would be a decision based on the facts and circumstances. If the enactment of a law requiring removal of the underground storage tanks during the lease term was judged to be probable at inception of the lease, the removal costs would be included in the minimum lease payments and accounted for under the general provisions for accounting for leases under ASC 840. However, if the enactment of such a law was not judged to be probable at lease inception, the estimated removal costs would be accounted for as a contingent rental. If a legal requirement to remove the underground storage tanks was enacted during the lease term or it was determined that the enactment of such law was probable, Entity B would accrue the estimated costs of removal.

As noted above, an obligation to return a leased asset to its original condition (if it has been modified by the lessee) is an ARO that should be accounted for under ASC 410-20. In certain cases, settlement of the obligation may be planned prior to the end of the contractual term of the lease. However, a plan to voluntarily settle an ARO obligation prior to the contractual term of the lease does not affect the requirement to record an ARO liability when leasehold improvements are made.

**Illustration 2-10: Settlement of ARO prior to the end of the lease term**

A retailer signs a 10-year lease for space in a shopping mall. The lease terms include a requirement for the lessee to return the space to its original condition at the end of the lease. At the inception of the lease, the retailer modifies the space by constructing various leasehold improvements (e.g., merchandise displays, shelving to stock merchandise, flooring, checkout counters). The retailer estimates that the useful life of the improvements is five years, at which time they will all be replaced.

The obligating event to remove these leasehold improvements occurs when they are made, regardless of whether settlement is planned at the end of the contractual lease term or at an earlier point in time. The asset retirement cost should be amortized over the five-year estimated useful life of the improvements, and the obligation should be accreted using the credit-adjusted risk-free rate over the same five-year term. If the retailer replaces the original leasehold improvements after five years, a settlement of the original ARO obligation should be recognized and a new ARO obligation should be recorded related to any newly constructed leasehold improvements.

### 2.3.1.1 Lease classification

In addition to requiring consideration of whether the accounting for the obligations of a lessee in connection with a lease is governed by the general provisions of accounting for leases or AROs, an ARO can affect the application of the lease classification criteria. While the FASB indicated in its Basis for Conclusions that it was not its intent to amend the accounting literature for leases (Statement 143, paragraph B66), AROs accounted for under ASC 410-20 have the potential to affect the classification of leases as capital or operating leases.

If the present value of the minimum lease payments at the beginning of the lease term equals or exceeds 90% of the fair value of the leased asset at lease inception, the lease should be classified as a capital lease. The FASB intended that the fair value of the leased asset for purposes of evaluating lease classification would include the ARO associated with the leased asset (although the FASB staff believes that an ARO would not be included in the fair value of a leased asset if the ARO existed only as a result of a requirement imposed on the lessor or lessee by the lease). That is, the fair value of the leased asset should include not only the net price at which the asset could be sold in an arm's-length transaction between unrelated parties but also the fair value of any ARO associated with the asset. Accordingly, the fair value of the asset generally would increase as a result of the application of ASC 410-20, and the percentage of the minimum lease payments compared to the fair value of the leased asset would be reduced, which would increase the likelihood of a lease being classified as an operating lease.

### 2.3.2 After the adoption of ASC 842

#### Excerpt from Accounting Standards Codification

##### Leases

##### *Implementation Guidance and Illustrations*

##### *Obligations to Return an Underlying Asset to its Original Condition*

842-10-55-37

#### **Pending Content:**

**Transition Date:** (P) December 16, 2018; (N) December 16, 2021 | **Transition Guidance:** 842-10-65-1

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.

It is important to remember that the requirements of ASC 410-20 may apply not only to long-lived assets owned by the entity but also to improvements made to underlying assets. The following is a discussion of the lessee's obligations for asset retirement obligations.

### 2.3.2.1 Distinguishing an ARO from lease payments and variable lease payments

The provisions of ASC 410-20 do not apply to obligations of a lessee in connection with the underlying asset, whether imposed by a lease agreement or by a party other than the lessor, that meet the definition of either lease payments or variable lease payments. Instead, obligations that are considered either lease payments or variable lease payments should be accounted for in accordance with ASC 842. However, obligations imposed by a lease agreement that meet the definition of an ARO and do not meet the definition of lease payments or variable lease payments are accounted for by the lessee in accordance with the requirements of ASC 410-20. It should be noted that ASC 842 does not apply to leases to explore or exploit natural resources; thus, any retirement obligations imposed by these types of agreements always are within the scope of ASC 410-20.

The estimated costs imposed by a lease that requires a lessee to dismantle and remove a lessor's asset at the end of the lease term are recognized as a component of lease payments. Because the estimated removal costs are included in lease payments, these removal costs will be included in the measurement of the lease liability and right-of-use (ROU) asset, and the related expense will be recognized over the lease term.

Variable lease payments are defined as payments made by a lessee to a lessor for the right to use an underlying asset that vary because of changes in facts or circumstances occurring after the commencement date, other than the passage of time. Lease payments that depend on a factor directly related to the future use of the underlying asset, such as machine hours or sales volume during the lease term, are variable lease payments and, accordingly, are excluded from lease payments in their entirety. Increases or decreases in payments that result from variable lease payments are included in income as accruable.

Obligations imposed by a lease agreement to return the underlying asset to its original condition (if it has been modified by the lessee by the installation of leasehold improvements, such as a building constructed on leased land) generally do not meet the definition of a lease payment or a variable lease payment and, therefore, should be accounted for by the lessee as an ARO. Said another way, if an improvement to the underlying asset has been recognized as an asset on the lessee's balance sheet (i.e., leasehold improvements), any obligation to remove that lessee improvement on expiration of the lease should generally be accounted for as an ARO. For example, assume a lessee that leases retail space and installs its own improvements (e.g., customized build-out) has an obligation under the lease to remove the improvements at the expiration of the lease. The obligation to remove the leasehold improvements does not arise solely because of the lease but instead is a direct result of the lessee's decision to modify the leased space. Such costs would be excluded from lease payments and variable lease payments. We believe the lessee's estimate of its ARO at lease commencement would be included in the measurement of the leasehold improvement to which it relates and not as a component of a right-of-use asset.

In certain circumstances, it may be difficult to determine whether improvements are assets of the lessee or the lessor. In many cases, the conclusion, which can affect the determination as to whether removal costs should be accounted for under the provisions for accounting for leases (ASC 842) or the provisions for AROs (ASC 410-20), will be based on facts and circumstances. Guidance to assist in determining whether improvements should be considered assets of the lessee or the lessor can be found in ASC 842-40-55-5. See section 2.4.8, *Lessee's obligations for asset retirement obligations (AROs)*, of our FRD, [Lease accounting: Accounting Standards Codification 842, Leases](#), for further considerations.

The following illustrations demonstrate the concepts discussed above.

#### **Illustration 2-11: Obligation as a result of lease contract**

##### **Land with cellular tower**

Entity A (lessee) leases vacant land from Entity B (lessor). Entity A has the right but not the obligation to construct a cellular tower on the property. If Entity A constructs the cellular tower on the property, it is obligated to return the land to its original condition at the end of the lease term. In this case, it is the construction of the cellular tower that imposes the liability on Entity A, not the lease of the land. If Entity A does not construct the cellular tower, it has no obligation under the lease. If it does construct the cellular tower, the tower would be recognized as a leasehold improvement, and the obligation to remove the tower would be an ARO.

Alternatively, if Entity A leases land and an existing cellular tower from Entity B and is required to demolish and remove the cellular tower at the end of the lease term, Entity A has assumed a direct obligation related to the underlying asset that arises upon entering into the lease rather than an obligation created by a future action. As a result, the estimated demolition and removal costs should be included in lease payments. By including the dismantling obligation in lease payments, the obligation will be included in the measurement of the lease liability and ROU asset, and the related expense will be recognized over the lease term. At the end of the lease term, a liability exists that would be reduced by the payments made to demolish and remove the cellular tower.

### Lease of office space

A lessee leases office space with preexisting improvements (e.g., interior walls, carpeting) and is contractually obligated to remove these preexisting improvements upon expiration of the lease. Because the original condition of the underlying asset included the improvements and the lessee is leasing the space and improvements, the estimated removal obligation should be included in lease payments.

Alternatively, if the lessee pays to build out the space to configure it to its needs (e.g., interior walls and carpeting accounted for by the lessee as leasehold improvements) and is required to remove the improvements on expiration of the lease, it should account for the removal obligation as an ARO. The lessee is obligated to remove an asset that it constructed and recorded as an asset (i.e., a leasehold improvement).

If the lessee leases office space with both preexisting improvements (i.e., lessor assets) and additional lessee leasehold improvements, estimated costs to remove the improvements should be split between the preexisting improvements and the lessee improvements. Estimated costs to remove the preexisting improvements should be included in lease payments. The contractual obligation associated with the removal of the leasehold improvements constructed and accounted for by the lessee should be accounted for as an ARO.

### Illustration 2-12: Obligation as a result of a legal obligation

Entity A (lessor) owns a gas station that it leases to Entity B (lessee). The property includes preexisting underground fuel storage tanks.

#### Scenario 1

At lease commencement, there is a legal requirement to remove the preexisting underground fuel storage tanks in 10 years. Even though Entity A leases the gas station to another party, it remains legally obligated for removal of the underground storage tanks and must recognize an ARO.

If the lease agreement requires Entity B to remove the underground storage tanks at the end of the lease term, the estimated cost of removal would be included in the lease payments by Entity B and would have no effect on the requirement for Entity A to recognize an ARO under ASC 410-20 for its legal obligation to remove the storage tanks.

#### Scenario 2

At lease commencement, there is no legal requirement for removal of the underground storage tanks. However, the lease requires that if such a legal requirement is enacted during the lease term, Entity B is required to remove the underground storage tanks at the end of the lease.

Entity B would have to consider the facts and circumstances to determine whether to account for the estimated costs of removal of the underground storage tanks as a lease payment or variable lease payment. We believe, if the enactment of a law requiring removal of the underground storage tanks during the lease term was judged to be probable at lease commencement, the removal costs would be included in the lease payments and accounted for under the general provisions for accounting for leases under ASC 842. However, if the enactment of such a law was not judged to be probable at lease commencement, the estimated removal costs would be accounted for as a variable lease payment. If a legal requirement to remove the underground storage tanks was enacted during the lease term or it was determined that the enactment of such law was probable (after lease commencement), Entity B would accrue the estimated costs of removal.

As noted above, an obligation to return an underlying asset (i.e., the leased asset) to its original condition (if it has been modified by the lessee by the installation of leasehold improvements) is an ARO that should be accounted for under ASC 410-20. In certain cases, settlement of the obligation may be planned prior to the end of the lease term. However, a plan to voluntarily settle an ARO obligation prior to the end of the lease term does not affect the requirement to record an ARO liability when leasehold improvements are made.

**Illustration 2-13: Settlement of ARO prior to the end of the lease term**

A retailer signs a 10-year lease for space in a shopping mall. The lease terms include a requirement for the lessee to return the space to its original condition at the end of the lease. At commencement of the lease, the retailer modifies the space by constructing various leasehold improvements (e.g., merchandise displays, shelving to stock merchandise, flooring, checkout counters). The retailer estimates that the useful life of the improvements is five years, at which time they will all be replaced.

The obligating event to remove these leasehold improvements occurs when they are made, regardless of whether settlement is planned at the end of the lease term or at an earlier point in time. The asset retirement cost should be amortized over the five-year estimated useful life of the improvements, and the obligation should be accreted using the credit-adjusted risk-free rate over the same five-year term. If the retailer replaces the original leasehold improvements after five years, a settlement of the original ARO obligation should be recognized, and a new ARO obligation should be recorded related to any newly constructed leasehold improvements.

### 2.3.2.2

#### Accounting for an ARO after the adoption of ASC 842

Entities often plan to use leased equipment to perform asset retirement activities. If this is the case, the estimate of the gross cash flows to satisfy the ARO liability includes anticipated lease costs for equipment the entity plans to lease to perform asset retirement activities in the future. Therefore, the cost assumptions used to measure the fair value of the ARO asset and liability will include all anticipated lease costs and costs relating to the non-lease components of contracts the entity expects to enter into to perform the asset retirement activities. Lease costs include lease payments as defined by ASC 842 and other payments associated with the lease component of the contract, such as variable payments that are not dependent on an index or a rate.

Under ASC 842, a lessee is generally required to recognize a lease liability and a ROU asset for underlying assets, including underlying assets that are used in asset retirement activities, on the lease commencement date (i.e., the date the underlying asset is available for use by the lessee and not the date on which the ARO is recognized). This lease liability is recognized separately from any ARO liability even though the entity may have included an estimate of the lease costs in its measurement of the ARO (consistent with accounting for other obligations also included in the estimate of the ARO, such as employee payroll costs). That is, the entity recognizes one obligation to retire a long-lived asset or assets in accordance with ASC 410-20<sup>2</sup> and, at the lease commencement date, a separate obligation to the lessor of the leased equipment in accordance with ASC 842. This is not a “double counting” of the lease obligation but instead reflects two separate obligations to different parties (i.e., an obligation associated with the retirement of a long-lived asset and a separate lease obligation).

AROs are generally settled in the periods the asset retirement activities are performed. As noted above, recognition of an ARO liability and the lease obligation are separately recognized obligations. Therefore, the recording of the lease liability doesn't change the existence of the ARO. However, an entity should revise its estimates of lease costs used in measuring the ARO whenever indicators suggest that the

<sup>2</sup> ASC 410-20 does not apply to obligations of a lessee associated with the underlying asset as defined by ASC 842 (e.g., owned land, buildings, equipment, leasehold improvements).

assumptions regarding the future lease costs have changed, including at the commencement date of a lease contract for equipment that will be used to perform the asset retirement activities (i.e., when the terms of the lease arrangement are known).<sup>3</sup>

In the periods that a lessee uses an underlying asset for asset retirement activities, lease costs (i.e., operating lease cost or amortization associated with the lease of a finance lease) recognized in accordance with ASC 842 are recorded as a reduction to the ARO liability, rather than as lease expense.

The ASC 842 lessee disclosure requirements also apply once the lease has been entered into, even though the lessee will recognize lease costs as a reduction of the ARO. Therefore, entities will need to track total lease costs, including amounts that relate to asset retirement activities.

The graphic below illustrates both the accounting at key points in time and the periodic accounting journal entries an entity would make when using an underlying asset to perform asset retirement activities and assumes the lease commencement date occurs after the end of the useful life of the asset being retired.

### Key points in time

ARO incurred	Decommissioning work begins; lease commences
<ul style="list-style-type: none"> <li>▶ Recognize ARO asset and liability</li> </ul>	<ul style="list-style-type: none"> <li>▶ ARO asset has been fully depreciated</li> <li>▶ ARO liability recognized based on accretion to date and any changes in estimated cash flows</li> <li>▶ Separately recognize ROU asset and lease liability at lease commencement date</li> </ul>

### Periodic journal entries

Accounting before the decommissioning period	Accounting during the decommissioning period
<ul style="list-style-type: none"> <li>▶ Recognize accretion expense associated with the ARO liability</li> <li>▶ Record ARO asset depreciation expense over the asset's useful life</li> <li>▶ Reevaluate and remeasure ARO in accordance with ARO guidance, whenever assumptions change significantly</li> </ul>	<ul style="list-style-type: none"> <li>▶ Subsequently measure lease liability and ROU asset in accordance with ASC 842 following lease commencement date</li> <li>▶ Reduce ARO liability by lease costs (i.e., operating lease cost or amortization associated with a finance lease) recognized in each period</li> <li>▶ Recognize accretion expense associated with the ARO liability</li> <li>▶ Reduce ARO liability for other amounts used to settle the obligation</li> <li>▶ Recognize any gain or loss on settlement, as required by ASC 410-20</li> </ul>

The requirements of ASC 410-20 do not apply to obligations of a lessee that meet the definition of either lease payments or variable lease payments in connection with the underlying asset, whether imposed by a lease agreement or by a party other than the lessor.

The following illustration shows the accounting considerations for an entity that leases equipment used in asset retirement activities. While the illustration shows the considerations for an operating lease, the principles of this example would also apply to finance leases.

<sup>3</sup> Refer to section 5.2 and Appendix A Example 2 for a discussion of the settlement of an ARO obligation involving a change in estimated cash flows and example journal entries.



**Illustration 2-14: Using leased equipment for decommissioning activities**

Assume that an upstream oil and gas entity (Upstream Co.) begins production on an oil field with an expected producing life of 10 years, followed by a three-year period of rehabilitation and decommissioning of the field that Upstream Co. is legally obligated to perform. Also, assume the following:

- ▶ The production activities involve the use of land not in the scope of ASC 842 (i.e., ASC 842 does not apply to leases to explore for or use non-regenerative resources).
- ▶ On the date production begins, Upstream Co. estimates and records an ARO liability.<sup>1</sup>
- ▶ At the end of the 10-year field life, the reserves are fully depleted.<sup>2</sup>
- ▶ The ARO liability estimate includes expected payments of \$21 million to a third-party lessor that Upstream Co. expects to make to lease a specialized drilling rig it plans to use in the asset retirement activities.
- ▶ At the end of year 10, Upstream Co. enters into a three-year lease, classified as an operating lease, with the third-party supplier for the right to use the specialized drilling rig exclusively in the decommissioning process. For simplicity:
  - ▶ The terms of the lease are consistent with the assumptions used to measure the ARO liability.
  - ▶ The lease requires Upstream Co. to make a single lease payment of \$21 million at the end of the three-year term, and there are no variable lease payments, meaning annual lease cost is \$7 million.
  - ▶ Upstream Co. incurred no initial direct costs in connection with the lease and concludes the lease is an operating lease.
  - ▶ Annual accretion of the lease liability will be \$1 million per year.
- ▶ Upstream Co. recognizes a lease liability at the lease commencement date of \$18 million.<sup>3</sup>

*Analysis:* The journal entries below illustrate select accounting implications of this fact pattern. Refer to Example 1 in Appendix A for an example of the applicable ARO journal entries and chapter 4, *Lessee accounting*, of our FRD, ***Lease Accounting: Accounting Standards Codification 842, Leases***, for a discussion of lessee accounting.

At the lease commencement date, Upstream Co. recognizes the ROU asset and lease liability:

ROU asset	\$ 18,000,000	
Lease liability		\$ 18,000,000

*To initially recognize the ROU asset and lease liability.*

The following journal entries, among others, would be recorded in the first year of decommissioning:

Lease expense	\$ 7,000,000	
ROU asset		\$ 6,000,000
Lease liability		1,000,000

*To recognize the lease cost of \$7 million (\$21 million over the three-year operating lease term, on a straight-line basis) for the use of the underlying asset and to adjust the lease liability to the present value of the remaining lease payments.*

ARO liability	\$ 7,000,000	
Lease expense		\$ 7,000,000
<i>To reclassify lease expense to the ARO liability due to the use of the underlying asset for retirement activities.</i>		

<sup>1</sup> Refer to Example 1 in Appendix A for an example of the initial measurement of an ARO using the expected cash flow approach and subsequent measurements, assuming there are no changes in the expected cash flows.

<sup>2</sup> This liability will be accreted until settlement of the obligation (these subsequent accretion entries are not included for purposes of this illustration).

<sup>3</sup> Refer to section 4.2.4, *Example - lessee accounting for an operating lease*, of our FRD, [Lease accounting: Accounting Standards Codification 842, Leases](#), for an example of lease accounting journal entries for an operating lease.

## 2.4 Expected costs to remove long-lived assets that are not AROs

Prior to the adoption of Statement 143, some entities recognized the expected costs of removal of certain long-lived assets (e.g., railroad tracks) by including the expected removal cost in the calculation of depreciation of the long-lived asset. When the expected removal costs exceeded the estimated salvage value of the long-lived asset, this practice resulted in accumulated depreciation in excess of the gross asset balance (i.e., a negative net asset, or, in substance, a liability) once the asset was fully depreciated. Upon adoption of Statement 143, some entities, in consultation with their legal advisers, may have concluded that the removal of the long-lived asset is not a legal obligation, and therefore, an ARO liability was not recognized.

We have discussed this issue with the SEC staff, which concluded that an entity is precluded from recognizing a liability for estimated costs associated with the future removal of assets that do not represent legal obligations. However, the SEC staff indicated that estimated removal costs that do not represent legal obligations should reduce estimated salvage value when calculating depreciation expense, provided that estimated salvage value is not reduced below zero. That is, a long-lived asset may be depreciated to salvage value net of the removal or other costs that must be incurred to prepare the asset for salvage. If those costs exceed the gross salvage value, the asset should be depreciated to zero. Any removal costs in excess of estimated salvage value should be recognized when incurred.

Some entities utilize “mass asset” accounting for certain long-lived assets. Under mass asset accounting, very large numbers of homogenous assets (e.g., telephone poles, railroad ties) are accounted for as a single asset, due in large part to the complexity of individually accounting for each asset. In concept, the prohibition against depreciating assets to a negative value should apply on an individual asset basis. However, applying the prohibition to individual assets likely will not be possible for an entity that follows mass asset accounting. Accordingly, those entities should ensure that their depreciation practices will not result in negative salvage value (i.e., a liability) at the lowest (i.e., most detailed) level for which long-lived asset and accumulated depreciation balances are maintained.

## 2.5 Environmental remediation liabilities

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

#### *Implementation Guidance and Illustrations*

#### *Normal Operations*

#### **410-20-55-7**

This implementation guidance illustrates Section 410-20-15. Whether an obligation results from the normal operation of a long-lived asset may require judgment. Obligations that result from the normal operation of an asset should be predictable and likely of occurring. For example, consider an entity that owns and operates a nuclear power plant. That entity has a legal obligation to perform decontamination activities

when the plant ceases operations. Contamination, which gives rise to the obligation, is predictable and likely of occurring and is unavoidable as a result of operating the plant. Therefore, the obligation to perform decontamination activities at that plant results from the normal operation of the plant.

#### **410-20-55-8**

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 after the catastrophic accident does not result from the normal operation of the facility and is not within the scope of this Subtopic.

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 (e.g., the obligation to decontaminate a nuclear power plant site or cap a landfill) is an ARO within the scope of ASC 410-20. However, an environmental remediation liability that results from other-than-normal operation of a long-lived asset falls within the scope of ASC 410-30. For example, an environmental remediation liability that relates to pollution arising from some past act (e.g., a Superfund violation) that will be corrected without regard to retirement is not considered an ARO.

The timing of the required remediation activities may be an indicator as to whether an obligation is an ARO (subject to ASC 410-20) as opposed to an environmental liability (subject to ASC 410-30). Generally, the ability to delay the remediation efforts until the related asset is retired is an indicator that the obligation arises from the normal operation of the asset and, thus, is an ARO. Situations in which immediate remediation is required (e.g., an oil spill) would suggest that the obligation arises from other-than-normal operation of the asset and must be corrected without regard to its retirement.

# 3

## Recognition

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

##### *Recognition*

##### *Background for Recognition*

##### **410-20-25-1**

Paragraph 35 of FASB Concepts Statement No. 6, Elements of Financial Statements, defines a liability as follows (Note: The indented text below is reproduced from FASB Concepts Statement No. 6 and includes editorial changes for internal consistency within the Codification).

Liabilities are probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events.

##### **410-20-25-2**

Probable is used with its usual general meaning, rather than in a specific accounting or technical sense (such as that in paragraph 450-20-25-1), and refers to that which can reasonably be expected or believed on the basis of available evidence or logic but is neither certain nor proved (Webster's New World Dictionary). Its inclusion in the definition is intended to acknowledge that business and other economic activities occur in an environment characterized by uncertainty in which few outcomes are certain (see paragraphs 44 through 48 of FASB Concepts Statement No. 6).

##### **410-20-25-3**

As stated in the preceding paragraph, the definition of a liability in Concepts Statement 6 uses the term *probable* in a different sense than it is used in paragraph 450-20-25-1. As used in Topic 450, probable requires a high degree of expectation. The term probable in the definition of a liability, however, is intended to acknowledge that business and other economic activities occur in an environment in which few outcomes are certain.

##### **410-20-25-3A**

Paragraph 410-20-40-3 states that providing assurance that an entity will be able to satisfy its asset retirement obligation does not satisfy or extinguish the related liability.

All retirement obligations that meet the definition of a liability in FASB Concepts Statement No. 6 (CON 6) should be recognized as a liability when the recognition criteria are met. To determine whether an ARO meets the definition of a liability, an entity should evaluate the following three characteristics and determine whether:

- ▶ It has a present duty or responsibility to one or more entities that entails settlement by probable future transfer or use of assets
- ▶ It has little or no discretion to avoid a future transfer or use of assets
- ▶ An obligating event already has occurred

A present duty can (1) be created by the requirement of the current laws, regulations and contracts or (2) result from an entity's promise, on which others are justified in relying, to take a particular course of action.

Legal obligations generally result in an entity having little or no discretion to avoid a future transfer of assets because the consequences of nonperformance likely would result in legal action by those parties.

Identifying the obligating event that requires recognition of an ARO is often difficult, especially in situations that involve the occurrence of a series of transactions. An entity must look to the nature of the duty or responsibility to assess whether the obligating event has occurred and an ARO should be recognized. Refer to section 2.1, *Determining whether a legal obligation exists*, for additional discussion on whether a legal obligation exists.

Absent a legal obligation, the recognition of a liability for expected costs to retire an asset is not permitted. For example, management may intend to close a manufacturing plant at the end of its useful life, demolish it and restore the underlying land. However, if there is not a *legal obligation* to demolish the plant and restore the underlying land, then the recognition of a liability for the expected costs to retire an asset is not appropriate.

If there is a legal obligation associated with the retirement of an asset, then the anticipated sale or disposal of that asset does not affect the determination as to whether a liability should be recognized. If an asset is sold or otherwise disposed of, then, in most cases, the asset retirement obligation is transferred along with the related asset, and the liability would be derecognized at that time.

## 3.1 Initial recognition

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

##### *Recognition*

##### *Fair Value is Reasonably Estimated*

##### **410-20-25-4**

An entity shall recognize the fair value of a liability for an **asset retirement obligation** in the period in which it is incurred if a reasonable estimate of fair value can be made. If a reasonable estimate of fair value cannot be made in the period the asset retirement obligation is incurred, the liability shall be recognized when a reasonable estimate of fair value can be made. If a tangible long-lived asset with an existing asset retirement obligation is acquired, a liability for that obligation shall be recognized at the asset's acquisition date as if that obligation were incurred on that date.

##### **410-20-25-5**

Upon initial recognition of a liability for an **asset retirement obligation**, an entity shall capitalize an asset retirement cost by increasing the carrying amount of the related long-lived asset by the same amount as the liability. Paragraph 835-20-30-5 explains that capitalized asset retirement costs do not qualify as expenditures for purposes of applying Subtopic 835-20.

##### **410-20-25-6**

An entity shall identify all its asset retirement obligations. 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.

The fair value of a liability for an ARO is recognized in the period in which it is incurred if a reasonable estimate of fair value can be made. If a reasonable estimate of fair value cannot be made in the period the ARO is incurred, a circumstance that we believe would occur infrequently, no liability is recognized in that period. However, disclosure of the existence of the ARO is required. The recognition of the ARO should be delayed until the period in which a reasonable estimate of fair value can be made.

Upon initial recognition of a liability for an ARO, an entity should capitalize the asset retirement cost as part of the cost basis of the related long-lived asset. Paragraph B42 in the Basis for Conclusions of Statement 143 states the following:

The Board believes that asset retirement costs are integral to or are a prerequisite for operating the long-lived asset and noted that current accounting practice includes in the historical-cost basis of an asset all the costs that are necessary to prepare the asset for its intended use. Capitalized asset retirement costs are not a separate asset because there is no specific and separate future economic benefit that results from those costs. In other words, the future economic benefit of those costs lies in the productive asset that is used in the entity's operations.

#### **Illustration 3-1: Initial recognition during construction**

If an offshore drilling platform costs \$20,000,000 to construct and the fair value of the ARO liability is \$9,000,000, the initial total cost of the asset is \$29,000,000.

Entities that incur AROs during the operation of an asset (e.g., an obligation to restore land arises as its surface is mined) should recognize the ARO liability and related capitalized asset retirement cost as incurred over the life of the related asset.

## 3.2 Obligations with uncertainty about timing or method of settlement

### **Excerpt from Accounting Standards Codification**

#### **Asset Retirement Obligations**

##### *Recognition*

##### *Obligations with Uncertainty in Timing or Method of Settlement*

##### **410-20-25-7**

The obligation to perform the asset retirement activity is unconditional even though uncertainty exists about the timing and (or) method of settlement. Thus, the timing and (or) method of settlement may be conditional on a future event. Accordingly, an entity shall recognize a liability for the fair value of a **conditional asset retirement obligation** if the fair value of the liability can be reasonably estimated. In some cases, sufficient information about the timing and (or) method of settlement may not be available to reasonably estimate fair value. An expected present value technique incorporates uncertainty about the timing and method of settlement into the fair value measurement. Uncertainty is factored into the measurement of the fair value of the liability through assignment of probabilities to cash flows.

##### **410-20-25-8**

An entity would have sufficient information to apply an expected present value technique and therefore an asset retirement obligation would be reasonably estimable if either of the following conditions exists:

- a. The settlement date and method of settlement for the obligation have been specified by others. For example, the law, regulation, or contract that gives rise to the **legal obligation** specifies the settlement date and method of settlement. In this situation, the settlement date and method of settlement are known and therefore the only uncertainty is whether the obligation will be

enforced (that is, whether performance will be required). In certain cases, determining the settlement date for the obligation that has been specified by others is a matter of judgment that depends on the relevant facts and circumstances. For example, a contract that provides the entity with an ability to extend its term through renewal should be evaluated to determine whether the settlement date should take into consideration renewal periods. Uncertainty about whether performance will be required does not defer the recognition of an asset retirement obligation because a legal obligation to stand ready to perform the retirement activities still exists, and it does not prevent the determination of a reasonable estimate of fair value because the only uncertainty is whether performance will be required.

- b. The information is available to reasonably estimate all of the following:
  1. The settlement date or the range of potential settlement dates
  2. The method of settlement or potential methods of settlement (The term *potential methods of settlement* refers to methods of settling the obligation that are currently available to the entity. Therefore, uncertainty about future methods yet to be developed would not prevent the entity from estimating the fair value of the asset retirement obligation.)
  3. The probabilities associated with the potential settlement dates and potential methods of settlement. (The entity should have a reasonable basis for assigning probabilities to the potential settlement dates and potential methods of settlement to reasonably estimate the fair value of the asset retirement obligation. If the entity does not have a reasonable basis of assigning probabilities, it is expected that the entity would still be able to reasonably estimate fair value when the range of time over which the entity may settle the obligation is so narrow and (or) the cash flows associated with each potential method of settlement are so similar that assigning probabilities without having a reasonable basis for doing so would not have a material impact on the fair value of the asset retirement obligation.)

#### **410-20-25-9**

In many cases, the determination as to whether the entity has the information to reasonably estimate the fair value of the asset retirement obligation is a matter of judgment that depends on the relevant facts and circumstances. It is expected that the narrower the range of time over which the entity may settle the obligation and the fewer potential methods of settlement the entity has available to it, the more likely it is that the entity will have the information to reasonably estimate the fair value of an asset retirement obligation. For an illustration of this guidance, see Example 3 (paragraph 410-20-55-47).

#### **410-20-25-10**

Instances may occur in which sufficient information to estimate the fair value of an asset retirement obligation is unavailable. For example, if an asset has an indeterminate useful life, sufficient information to estimate a range of potential settlement dates for the obligation might not be available. In such cases, the liability would be initially recognized in the period in which sufficient information exists to estimate a range of potential settlement dates that is needed to employ a present value technique to estimate fair value.

#### **410-20-25-11**

Examples of information that is expected to provide a basis for estimating the potential settlement dates, potential methods of settlement, and the associated probabilities include, but are not limited to, information that is derived from the entity's past practice, industry practice, management's intent, or the asset's estimated economic life. 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.

#### **410-20-25-12**

An asset retirement obligation may result from the acquisition, construction, or development and (or) normal operation of a long-lived asset that has an indeterminate useful life and thereby an indeterminate settlement date for the asset retirement obligation.

#### **410-20-25-13**

If a current law, regulation, or contract requires an entity to perform an asset retirement activity when an asset is dismantled or demolished, there is an unambiguous requirement to perform the retirement activity even if that activity can be indefinitely deferred. At some time deferral will no longer be possible, because no tangible asset will last forever (except land). Therefore, the obligation to perform the asset retirement activity is unconditional even though uncertainty exists about the timing and (or) method of settlement.

A “conditional asset retirement obligation” refers to 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. However, the obligation to perform the asset retirement activity is unconditional even though uncertainty exists about the timing and/or method of settlement. Accordingly, recognition of the liability for the fair value of a conditional asset retirement obligation is required if the fair value of the liability can be reasonably estimated. The uncertainty about the timing and/or method of settlement of a conditional asset retirement obligation should be factored into the measurement of the liability when sufficient information exists.

Although it may be possible to estimate the fair value of an ARO using a market approach if an active market exists for the transfer of the obligation, the fair value of an ARO will generally be determined using an expected present value technique.

An entity would have sufficient information to apply an expected present value technique and, therefore, reasonably estimate the fair value of an asset retirement obligation if either of the following conditions exists:

- ▶ The settlement date **and** method of settlement for the obligation have been specified by others. In this case, the only uncertainty is whether the obligation will be enforced. Uncertainty about whether performance will be required does not defer the recognition of an asset retirement obligation because a legal obligation to stand ready to perform the retirement activities still exists.
- ▶ Information is available to reasonably estimate (1) the settlement date or the range of potential settlement dates, (2) the method of settlement or potential methods of settlement, and (3) the probabilities associated with both (1) and (2). This information may be derived from various sources, including the entity’s past practice, industry practice, management’s intent or the asset’s estimated economic life.



ASC 410-20-55-49 through 55-52 provide an example of recognition when fair value can be reasonably estimated and are used as a basis for Illustration 3-2.

**Illustration 3-2: Recognition of conditional ARO for an obligation that exists at acquisition date**

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 although the owner may replace the poles periodically for operational reasons. However, there is existing legislation that requires special disposal procedures for the poles in the state in which the entity operates. Once the poles are removed from the ground, they may be disposed of, sold, or reused as part of other activities. Although the timing of the performance of the asset retirement activity is conditional on the entity removing the poles and disposing of them, an obligating event occurs on the date of purchase because of the existing legislation requiring special disposal procedures.

At the date of purchase, the entity has information from established industry practice to estimate a range of potential settlement dates, the potential methods of settlement, and the probabilities associated with the potential settlement dates and methods. 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. Because the legal requirement relates only to the disposal of the treated poles, the liability recorded at the date of purchase would include the costs of disposal, but not the costs to remove the poles.

ASC 410-20-55-53 through 55-56 provide an example of recognition when fair value can be reasonably estimated and are used as a basis for Illustration 3-3.

**Illustration 3-3: Recognition when fair value can be reasonably estimated**

An entity that operates aluminum smelters is obligated to dispose of the bricks used to line its kilns at a hazardous waste site when they are removed. An entity that has past practice of replacing the bricks in the kiln would have the information necessary to estimate a range of potential settlement dates, the method of settlement and the probability associated with the potential settlement dates. Therefore, when the bricks become contaminated due to operation of the kiln, the entity is able to estimate the fair value of the liability and record the ARO.

Uncertainty about the timing of the settlement date does not change the fact that an entity has a legal obligation. However, measurement of that obligation might not be possible if insufficient information exists about the timing of settlement.

ASC 410-20-55-57 through 55-58 provide the following example of recognition when an entity does not have sufficient information to reasonably estimate present value.

**Illustration 3-4: Recognition when an entity has insufficient information to reasonably estimate present value (ASC 410-20-55-57 to 55-58)**

Assume an entity acquires a factory that contains asbestos. After the acquisition date, regulations are put in place that require the entity to handle and dispose of this type of asbestos in a special manner if the factory undergoes major renovations or is demolished. Otherwise, the entity is not required to remove the asbestos from the factory. The entity has several options to retire the factory in the future, including demolishing, selling or abandoning it. The entity believes it does not have sufficient information to estimate the fair value of the asset retirement obligation because the settlement date or the range of potential settlement dates has not been specified by others and information is not available to apply an expected present value technique. For example, there are no plans or expectation of plans to undertake a major renovation that would require removal of the asbestos or demolition of the factory. The factory is expected to be maintained by repairs and maintenance activities that would not involve the removal of the asbestos. Also, the need for major renovations caused by technology changes, operational changes or other factors has not been identified.

Although the timing of the performance of the asset retirement activity is conditional on the factory undergoing major renovations or being demolished, existing regulations create a duty or responsibility for the entity to remove and dispose of asbestos in a special manner, and the obligating event occurs when the regulations are put in place. Therefore, an asset retirement obligation should be recognized when regulations are put in place if the entity can reasonably estimate the fair value of the liability. In this case, the entity believes that there is an indeterminate settlement date for the asset retirement obligation because the range of time over which the entity may settle the obligation is unknown or cannot be estimated. Therefore, the entity cannot reasonably estimate the fair value of the liability. Accordingly, the entity would not recognize a liability for the asset retirement obligation when regulations are put in place, but it should disclose a description of the obligation, the fact that a liability has not been recognized because the fair value cannot be reasonably estimated and the reasons why fair value cannot be reasonably estimated. The entity would recognize a liability in the period in which sufficient information is available to reasonably estimate its fair value.

The position that the fair value of an ARO cannot be reasonably estimated should be reevaluated on a periodic basis when facts and circumstances change that could affect the timing of settlement or as the asset nears the end of its useful life. As the potential timing of settlement narrows, we believe it is more difficult to support the position that the settlement date is indeterminate.

**Illustration 3-5: Recognition when additional information becomes available**

Initially, an entity did not recognize an ARO related to a manufacturing facility it acquired that contained asbestos because the settlement date was indeterminate (see Illustration 3-4). After five years of operating the facility, the entity decides to renovate in order to accommodate new equipment with technological advances that would reduce costs of production. The renovations will be considered major renovations that will trigger the requirement to remove asbestos from the factory. The entity now has sufficient information to be able to estimate the fair value of the liability (i.e., the timing is no longer indeterminate). Therefore, the entity must recognize the ARO.

ASC 410-20-55-59 through 55-62 provide an additional example of a situation where an entity initially has insufficient information, but later has sufficient information to reasonably estimate the present value of an ARO, and are presented below as Illustration 3-6.

**Illustration 3-6: Recognition when an entity initially has insufficient information, but later has sufficient information to reasonably estimate present value (ASC 410-20-55-59 to 55-62)**

Assume an entity acquires a factory that contains asbestos. At the acquisition date, regulations are in place that require the entity to handle and dispose of this type of asbestos in a special manner if the factory undergoes major renovations or is demolished. Otherwise, the entity is not required to remove the asbestos from the factory. The entity has several options to retire the factory in the future, including demolishing, selling or abandoning it. At the acquisition date, it is not evident that the fair value of the obligation is embodied in the acquisition price of the factory because both the seller and the buyer of the factory believed the obligation had an indeterminate settlement date, an active market does not exist for the transfer of the obligation and sufficient information does not exist to apply an expected present value technique. Ten years after the acquisition date, the entity obtains additional information based on changes in demand for the products manufactured at that factory. At that time, 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 potential methods of settlement. Therefore, at that time the entity is able to estimate the fair value of the liability for the special handling of the asbestos using an expected present value technique.

Although timing of the performance of the asset retirement activity is conditional on the factory undergoing major renovations or being demolished, existing regulations create a duty or responsibility for the entity to remove and dispose of asbestos in a special manner, and the obligating event occurs when the entity acquires the factory. In this case, regulations are in place at the date of acquisition that require the entity to handle and dispose of the asbestos in a special manner. Therefore, the obligating event is the acquisition of the factory. If regulations were enacted after the date of acquisition, the obligating event would be the enactment of the regulations.

Although the entity may decide to abandon the factory and thereby defer settlement of the obligation for the foreseeable future, the ability to defer settlement does not relieve the entity of the obligation. The asbestos will eventually need to be removed and disposed of in a special manner, because no building will last forever. Additionally, the ability of the entity to sell the factory does not relieve the entity of its present duty or responsibility to settle the obligation. The sale of the asset would transfer the obligation to another entity and that transfer would affect the selling price. Therefore, the obligation to perform the asset retirement activity is unconditional even though uncertainty exists about the timing and method of settlement.

In this case, an asset retirement obligation is not recognized when the entity acquires the factory because the entity does not have sufficient information to estimate the fair value of the obligation. The entity would disclose a description of the obligation, the fact that a liability has not been recognized because the fair value cannot be reasonably estimated and the reasons why fair value cannot be reasonably estimated. An asset retirement obligation would be recognized by this entity 10 years after the acquisition date because that is when the entity has sufficient information to estimate the fair value of the asset retirement obligation.

### 3.3 Uncertainty in performance obligations

#### Excerpt from Accounting Standards Codification

##### Asset Retirement Obligations

##### *Recognition*

##### *Uncertainty in Performance Obligations*

##### **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.

##### **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.

As previously noted in section 2.1, *Determining whether a legal obligation exists*, even if there is an expectation of a waiver or non-enforcement of an obligation based on historical experience, if a legal obligation exists, an ARO must be recognized. The likelihood of a waiver or non-enforcement is taken into account when measuring the liability. See chapter 4, *Initial measurement*, for guidance on the measurement of an ARO.

### 3.4 Acquired asset retirement obligations

#### Excerpt from Accounting Standards Codification

##### Asset Retirement Obligations

##### *Recognition*

##### *Acquired Asset Retirement Obligations*

##### **410-20-25-16**

If a tangible long-lived asset with an existing asset retirement obligation is acquired, a liability for that obligation shall be recognized at the asset's acquisition date as if that obligation were incurred on that date.

If an ARO is assumed in connection with the acquisition of an asset, a separate liability should be recognized on the acquisition date. The existence of an ARO will directly affect the fair value of the related acquired tangible asset.

# 4 Initial measurement

## Excerpt from Accounting Standards Codification

### Asset Retirement Obligations

#### *Initial Measurement*

#### *Determination of a Reasonable Estimate of Fair Value*

##### **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**. An entity, when using that technique, shall discount the expected cash flows using a credit-adjusted risk-free rate. Thus, the effect of an entity's credit standing is reflected in the discount rate rather than in the expected cash flows. Proper application of a **discount rate adjustment technique** entails analysis of at least two liabilities—the liability that exists in the marketplace and has an observable interest rate and the liability being measured. The appropriate rate of interest for the cash flows being measured shall be inferred from the observable rate of interest of some other liability, and to draw that inference the characteristics of the cash flows shall be similar to those of the liability being measured. Rarely, if ever, would there be an observable rate of interest for a liability that has cash flows similar to an asset retirement obligation being measured. In addition, an asset retirement obligation usually will have uncertainties in both timing and amount. In that circumstance, employing a discount rate adjustment technique, where uncertainty is incorporated into the rate, will be difficult, if not impossible. See paragraphs 410-20-55-13 through 55-17 and Example 2 (paragraph 410-20-55-35). For further information on present value techniques, see the guidance beginning in paragraph 820-10-55-4.

#### *Implementation Guidance and Illustrations*

#### *Components of a Larger System*

##### **410-20-55-11**

If assets with asset retirement obligations are components of a larger group of assets (for example, a number of oil wells that make up an entire oil field operation), aggregation techniques may be necessary to derive a collective asset retirement obligation. This Subtopic does not preclude the use of estimates and computational shortcuts that are consistent with the fair value measurement objective when computing an aggregate asset retirement obligation for assets that are components of a larger group of assets. This implementation guidance illustrates paragraph 410-20-30-1.

#### *Expected Present Value Technique*

##### **410-20-55-13**

This implementation guidance illustrates paragraph 410-20-30-1. In estimating the fair value of a liability for an asset retirement obligation using an expected present value technique, an entity shall begin by estimating the expected cash flows that reflect, to the extent possible, a marketplace assessment of the cost and timing of performing the required retirement activities. Considerations in estimating those expected cash flows include developing and incorporating explicit assumptions, to the extent possible, about all of the following:

- a. The costs that a third party would incur in performing the tasks necessary to retire the asset

- b. Other amounts that a third party would include in determining the price of the transfer, including, for example, inflation, overhead, equipment charges, profit margin, and advances in technology
- c. 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
- d. The price that a third party would demand and could expect to receive for bearing the uncertainties and unforeseeable circumstances inherent in the obligation, sometimes referred to as a market-risk premium.

#### **410-20-55-14**

It is expected that uncertainties about the amount and timing of future cash flows can be accommodated by using the expected present value technique and therefore will not prevent the determination of a reasonable estimate of fair value.

The objective of initial measurement of an ARO liability is fair value (i.e., to determine what a third party would charge (as of the measurement date) to perform the remediation activities in the future), generally using a present value technique. ASC 820 serves as the primary guidance regarding fair value measurements in GAAP. Fair value is the price that would be received to sell an asset or paid to transfer a liability in a current transaction between market participants, other than a forced sale or liquidation transaction, at the measurement date.

Fair value represents an exit price based on the assumptions that market participants would use in pricing the asset or liability. This definition distinguishes the fair value of a liability (based on a transfer notion) from its settlement value. The transfer notion requires an entity to determine the fair value of a liability based on the price that would be paid to a third party to assume the obligation. Because the fair value of the liability is considered from the perspective of market participants and not the entity itself, any relative efficiencies (or inefficiencies) the entity has in settling the liability would not be considered in the fair value measurement. Refer to our FRD, [Fair value measurement](#), for further guidance.

When estimating fair value, guidance on the following two present value techniques is provided in ASC 820: (i) the discount rate adjustment technique and (ii) the expected cash flow (expected present value) technique. While the general guidance for fair value measurements in ASC 820 does not prescribe the use of either technique, ASC 410-20-30-1 notes that the expected cash flow technique is usually the only appropriate technique for measuring an ARO liability. The FASB concluded that the expected cash flow approach usually would be the only appropriate technique given that observable interest rates for liabilities that have cash flows similar to an ARO generally do not exist. Application of a discount rate adjustment technique requires that the appropriate rate of interest for the cash flows being measured must be inferred from the observable rate of interest from some other liability, and to draw that inference, the cash flows must be similar to the liability being measured.

By incorporating a range of possible outcomes, the expected cash flow approach attempts to deal with situations where the timing or amounts of cash flows are uncertain. This approach uses the sum of probability-weighted expected cash flows, all discounted using a risk-free interest rate, adjusted for the obligor's credit risk. See section 4.1, *Credit-adjusted risk-free rate*, for additional discussion.

In determining expected cash flows, an entity should weigh possible outcomes based on their estimated probability.

**Illustration 4-1: Expected cash flow approach**

An entity and its legal counsel have determined that an ARO exists. The entity estimates the gross amount it will have to pay in five years<sup>1</sup> to satisfy the obligation and concludes that three possible outcomes exist based on different potential levels of remediation with probabilities estimated as follows:

Estimated gross cash flows	Likelihood of outcome	Expected cash flows
\$ 1,000,000	20%	\$ 200,000
1,500,000	60%	900,000
3,000,000	20%	<u>600,000</u>
		\$ 1,700,000

In this case, even though \$1,500,000 is the most likely outcome (60% chance of occurring), the measurement of the ARO liability should be based on the probability-weighted expected cash flow of \$1,700,000.

<sup>1</sup> Although this illustration assumes that the entity knows when the ARO must be satisfied, in practice there may be uncertainty regarding the timing of the activities as well as the amount. In those circumstances, the entity must estimate the reasonably possible outcomes in terms of both timing and amount of expenditures and assign appropriate probabilities to each reasonably possible outcome.

In estimating the fair value of an ARO liability using the expected cash flow approach, an entity should begin by estimating a set of expected cash flows that reflect a marketplace assessment of the cost and timing of performing the required retirement activities (even if the entity plans to perform the retirement activities itself).

Although many AROs cannot be transferred in a current transaction with third parties and some entities will (and may even be required to) perform the retirement activities themselves, an ARO is required to initially be measured at its fair value. If the entity ultimately performs the retirement activities itself and its estimates prove accurate, it often will recognize a gain upon completion of those activities (essentially, the profit or cost savings associated with performing the retirement activities itself rather than engaging an outside party to perform the activities). The timing of the recognition of these gains is discussed in section 5.3, *Derecognition*.

In determining the amount that a third party would charge to assume the obligation, the FASB concluded that all offsetting cash flows, including salvage values, should be excluded from the computation of AROs.

Additionally, ASC 410-20 indicates that inflation should be included in determining the price of the transfer. In certain cases, it may be appropriate to assume that the effect of inflation will be offset by cost savings resulting from anticipated advances in technology (e.g., in mature industries that have a history of technological advances).

## 4.1 Credit-adjusted risk-free rate

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

#### *Implementation Guidance and Illustrations*

#### *Credit-Adjusted Risk-Free Rate*

##### **410-20-55-15**

This implementation guidance illustrates paragraph 410-20-30-1. An entity shall discount expected cash flows using an interest rate that equates to a risk-free interest rate adjusted for the effect of its credit standing (a credit-adjusted risk-free rate). In determining the adjustment for the effect of its credit standing, an entity should consider the effects of all terms, collateral, and existing guarantees on the fair value of the liability.

##### **410-20-55-16**

Adjustments for default risk can be reflected in either the discount rate or the expected cash flows. In most situations, an entity will know the adjustment required to the risk-free interest rate to reflect its credit standing. Consequently, it would be easier and less complex to reflect that adjustment in the discount rate.

##### **410-20-55-17**

In addition, because of the requirements in paragraph 410-20-35-8 relating to upward and downward adjustments in expected cash flows, it is essential to the operability of this Subtopic that the credit standing of the entity be reflected in the discount rate. For those reasons, the risk-free rate shall be adjusted for the credit standing of the entity to determine the discount rate.

The discount rate used to calculate fair value should equate to a risk-free interest rate (in the US, a zero-coupon US Treasury instrument), adjusted for the effect of the entity's credit standing.

The fair value of an ARO, similar to the fair value concepts used for any liability, must include an assessment of an entity's own credit risk. The general guidance on fair value measurements in ASC 820 requires an assumption that nonperformance risk related to the liability is the same before and after its transfer (i.e., the hypothetical transfer takes place with a market participant of equal credit standing). In the case of an expected cash flow technique for determining fair value, an entity's own credit risk is incorporated in the credit-adjusted risk-free rate. To the extent other valuation techniques are used, the fair value of the obligation should also incorporate the nonperformance risk associated with the liability.

#### **Illustration 4-2: Risk adjustment**

Continuing from Illustration 4-1, if the risk-free rate is 6% and the entity's credit standing would result in an adjustment of 4%, the credit-adjusted risk-free rate used to discount the probability weighted expected cash flows of \$1,700,000 would be 10%.

While the discussion of the credit-adjusted risk-free rate in ASC 410-20 provides little guidance on adjusting the risk-free rate to reflect an entity's credit standing, we believe a reasonable approach is to estimate the entity's incremental borrowing rate on debt of similar maturity. The increment of that rate over the risk-free rate of the same maturity is the adjustment for the entity's credit standing. In determining the adjustment for the effect of its credit standing, the FASB indicates that an entity should consider the effects of all terms, collateral and existing guarantees on the fair value of the liability. See also the discussion in section 4.3, *Funding and assurance provisions*.



The credit-adjusted risk-free rates used in discounting expected cash flows should be based on maturity dates that coincide with the expected timing of those expected cash flows. Thus, in calculating expected cash flows that involve uncertainty with regard to the timing of the asset retirement activities, the expected cash flows for each different time period would be discounted using a credit-adjusted risk-free rate that coincides with that time period as opposed to using a single credit-adjusted risk-free rate for all scenarios. Subsequently, for the purposes of computing accretion expense, entities will find it necessary to use a weighted average credit-adjusted risk-free rate.

### 4.1.1 **Subsidiary rate**

Questions may arise about the appropriate rate to use in both consolidated financial statements and the separate financial statements of a subsidiary if an ARO represents an obligation of the subsidiary. That is, should the credit adjustment to the risk-free rate reflect the credit standing of the consolidated entity, the parent entity or the subsidiary with the legal obligation? We believe that the credit adjustment should reflect the credit standing of the legal obligor (i.e., the subsidiary in this case). However, if the entity believes that the parent entity also could be held responsible for satisfying the obligation (e.g., if the parent entity has guaranteed the subsidiary's performance under the obligation), the effect of that guarantee should be reflected in the required credit adjustment to the risk-free rate (refer to section 4.3, *Funding and assurance provisions*).

## 4.2 **Market risk premium**

The FASB believes that a fair value measurement incorporates a market risk premium intended to reflect what a market participant would hypothetically demand for bearing the uncertainty inherent in the cash flows of an asset or a liability. In the case of an ARO, this would represent the premium a market participant would demand for agreeing to assume an obligation for a fixed price today, when it will satisfy the obligation many years in the future.

The FASB provided no additional guidance in ASC 410-20 regarding how to estimate an appropriate market risk premium. Estimating a risk premium will require significant judgment, particularly in circumstances in which the retirement activities will be performed many years in the future. Typically, the entity has little information about how much a market participant would charge in addition to a normal price to assume the risk that the actual costs to perform the retirement activities will change in the future. This is because very few instances exist of an ARO being transferred to a market participant as contemplated in the general guidance on fair value measurements in ASC 820. Estimating the appropriate market risk premium will depend on all the facts and circumstances associated with the obligation.

The implementation guidance in ASC 410-20 indicates that measurement of an ARO should include explicit assumptions of several factors, including a market risk premium, to the extent possible. However, ASC 820-10-55-8 clarifies that the potential difficulty in determining the appropriate risk premium is not, in and of itself, a sufficient basis for excluding that adjustment. Therefore, a fair value measurement that uses present value, such as an ARO, should include an adjustment for risk if market participants would include one in pricing the liability, regardless of the difficulty in estimating that market risk premium. This risk premium may be incorporated into the expected cash flows or the discount rate when an expected present value technique is used.

While AROs are rarely transferred on a standalone basis, they are commonly transferred in business combinations and asset sale transactions. Entities may consider the risk premium that they observed in business combinations when retirement obligations are assumed, including business combination transactions in which the entity participated. In other words, the entity may consider its own data in developing assumptions related to assets and liabilities with little, if any, market activity (including the risk premium that it has obtained in transactions with third parties) provided that contrary information is not available without undue cost and effort.

Another approach may be to consider the difference between a fixed price arrangement with a third party to complete the required retirement activities and a cost-plus arrangement. The difference between the fixed price and cost-plus arrangements may be indicative of the risk premium for an ARO.

We believe that entities should consider all available evidence about market participant behavior to develop explicit assumptions with respect to a market risk premium. ASC 410-20-55-13 specifically acknowledges that explicit assumptions may not be able to be incorporated, and this acknowledgment was not changed by the general guidance on fair value measurements in ASC 820. As a result, we believe that entities may not be able to determine explicit assumptions for certain inputs, such as market risk premium for AROs, in certain instances. In such cases, the market risk premium may be incorporated on an implicit basis.

An entity that performs an expected cash flow approach that encompasses many different cash flow probabilities may effectively incorporate the implicit market risk premium associated with variability into those cash flows. Arguably the more robust an expected cash flow approach is, the less likely a premium for variability in cash flows would be significant. Entities may also include an implicit market risk premium in their determination of an appropriate discount rate when explicit evidence of such a premium is not available. In this case, the discount rate would no longer be solely the credit-adjusted risk-free rate.

## 4.3 Funding and assurance provisions

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

##### *Subsequent Measurement*

##### *Effects of Funding and Assurance Provisions*

##### **410-20-35-9**

Methods of providing assurance include surety bonds, insurance policies, letters of credit, guarantees by other entities, and establishment of trust funds or identification of other assets dedicated to satisfy the asset retirement obligation. The existence of funding and assurance provisions may affect the determination of the credit-adjusted risk-free rate. For a previously recognized asset retirement obligation, changes in funding and assurance provisions have no effect on the initial measurement or accretion of that liability, but may affect the credit-adjusted risk-free rate used to discount upward revisions in undiscounted cash flows for that obligation.

##### *Derecognition*

##### *Settlement of an Asset Retirement Obligation*

##### **410-20-40-3**

Providing assurance that an entity will be able to satisfy its asset retirement obligation does not satisfy or extinguish the related liability. The effect of surety bonds, letters of credit, and guarantees is to provide assurance that third parties will provide amounts to satisfy the asset retirement obligations if the entity that has primary responsibility (the obligor) to do so cannot or does not fulfill its obligations. The possibility that a third party will satisfy the asset retirement obligations does not relieve the obligor from its primary responsibility for those obligations. If a third party is required to satisfy asset retirement obligations due to the failure or inability of the obligor to do so directly, the obligor would then have a liability to the third party.

In some cases, an entity may be required to provide assurance that it will be able to satisfy its AROs. Such assurance may be provided through the use of surety bonds, prepayment and establishment of trust funds, letters of credit or other third-party guarantees. The ARO liability should not be reduced because of compliance with such assurance provisions, and the liability should not be considered defeased if the entity remains primarily liable for the obligation. In addition, if cash, securities or other assets are set aside for future settlement of the asset retirement obligations, those assets should not be offset against the ARO liability unless the requirements for offsetting amounts on the balance sheet in ASC 210-20 are satisfied. However, the effects of funding and assurance provisions should be considered in determining an entity's credit-adjusted risk-free rate (i.e., the assurance mechanism may result in a lower credit-adjusted risk-free rate comparable to the entity providing the assurance). Costs associated with complying with funding or assurance provisions are accounted for separately from the ARO.

## 4.4 Settlement dates

Questions may arise as to whether the estimated timing of the retirement activities (i.e., the settlement date) should coincide with the asset's estimated economic life. 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. For example, a distinction could be made between the estimated economic life of the asset taken as a whole as opposed to components that may have retirement obligations.

In addition, 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. Even though there may be a difference between the estimated settlement date and the asset's estimated economic life, the capitalized asset retirement cost should be depreciated over the asset's estimated economic life because it does not represent a separate asset.

# 5

## Subsequent measurement

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

##### *Subsequent Measurement*

##### *Allocation of Asset Retirement Cost*

###### **410-20-35-1**

A liability for an **asset retirement obligation** may be incurred over more than one reporting period if the events that create the obligation occur over more than one reporting period. Any incremental liability incurred in a subsequent reporting period shall be considered to be an additional layer of the original liability. Each layer shall be initially measured at fair value. For example, the liability for decommissioning a nuclear power plant is incurred as contamination occurs. Each period, as contamination increases, a separate layer shall be measured and recognized. Paragraph 410-20-30-1 provides guidance on using that technique.

###### **410-20-35-2**

An entity shall subsequently allocate that **asset retirement cost** to expense using a systematic and rational method over its useful life. Application of a systematic and rational allocation method does not preclude an entity from capitalizing an amount of asset retirement cost and allocating an equal amount to expense in the same accounting period. For example, assume an entity acquires a long-lived asset with an estimated life of 10 years. As that asset is operated, the entity incurs one-tenth of the liability for an asset retirement obligation each year. Application of a systematic and rational allocation method would not preclude that entity from capitalizing and then expensing one-tenth of the asset retirement costs each year.

###### **410-20-35-3**

In periods subsequent to initial measurement, an entity shall recognize period-to-period changes in the liability for an asset retirement obligation resulting from the following:

- a. The passage of time
- b. Revisions to either the timing or the amount of the original estimate of undiscounted cash flows.

###### **410-20-35-6**

The subsequent measurement provisions require an entity to identify undiscounted estimated cash flows associated with the initial measurement of a liability. Therefore, an entity that obtains an initial measurement of fair value from a market price or from a technique other than an expected present value technique must determine the undiscounted cash flows and estimated timing of those cash flows that are embodied in that fair value amount for purposes of applying the subsequent measurement provisions. Example 1 (see paragraph 410-20-55-31) provides an illustration of the subsequent measurement of a liability that is initially obtained from a market price. (See paragraph 410-20-25-14 for a discussion on conditional outcomes.)

###### **410-20-35-7**

Paragraph 410-20-25-14 explains how uncertainty surrounding conditional performance of a retirement obligation is factored into its measurement by assessing the likelihood that performance will be required. As the time for notification approaches, more information and a better perspective about the ultimate outcome will likely be obtained. Consequently, reassessment of the timing, amount, and probabilities associated with the expected cash flows may change the amount of the liability recognized. See paragraphs 410-20-55-18 through 55-19.

In considering subsequent measurements of an ARO liability, the FASB decided that an entity is not required to remeasure an ARO liability at fair value each period. However, an entity does recognize the effect of the passage of time on the amount of the ARO liability (i.e., accretion) as well as the result of changes in the amount or timing of the expected cash flows required to settle the asset retirement obligation. Only an incremental increase in the ARO as a result of revisions to expected cash flows takes into account the entity's current credit-adjusted risk-free rate and market risk premium, and as such, the revised carrying value of the ARO does not represent a fair value measurement.

The capitalized asset associated with the ARO should be allocated to expense (i.e., depreciate the asset) using a systematic and rational method over the useful life of the asset. An entity is not precluded from capitalizing the retirement costs as they are incurred each period but then recognizing them as expense in the same period (i.e., the amount capitalized and the depreciation expense could be the same).

## 5.1 Accretion of the liability

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

#### *Subsequent Measurement*

#### *Allocation of the Asset Retirement Cost*

##### **410-20-35-4**

An entity shall measure and incorporate changes due to the passage of time into the carrying amount of the liability before measuring changes resulting from a revision to either the timing or the amount of estimated cash flows.

##### **410-20-35-5**

An entity shall measure changes in the liability for an asset retirement obligation due to passage of time by applying an interest method of allocation to the amount of the liability at the beginning of the period. The interest rate used to measure that change shall be the credit-adjusted risk-free rate that existed when the liability, or portion thereof, was initially measured. That amount shall be recognized as an increase in the carrying amount of the liability and as an expense classified as **accretion expense**. Paragraph 835-20-15-7 states that accretion expense related to exit costs and asset retirement obligations shall not be considered to be interest cost for purposes of applying Subtopic 835-20.

#### *Implementation Guidance and Illustrations*

#### *Calculation of Accretion Expense*

##### **410-20-55-18**

This implementation guidance illustrates paragraphs 410-20-35-1 through 35-6. In periods subsequent to initial measurement, an entity recognizes the effect of the passage of time on the amount of a liability for an asset retirement obligation. A period-to-period increase in the carrying amount of the liability shall be recognized as an operating item (**accretion expense**) in the statement of income. An equivalent amount is added to the carrying amount of the liability. To calculate accretion expense, an entity shall multiply the beginning of the period liability balance by the credit-adjusted risk-free rate that existed when the liability was initially measured. The liability shall be adjusted for accretion prior to adjusting for revisions in estimated cash flows.

Changes in the ARO liability resulting merely from the passage of time (accretion of the discounted liability) should be recognized as an increase in the carrying amount of the liability and as a charge to accretion expense, based on the original discount rate (credit-adjusted risk-free rate). Accretion expense should be

classified as an operating item in the statement of income. Accretion does not take into account the entity's current credit-adjusted risk-free rate and market risk premium, and therefore, the subsequent measurement of the ARO is not a fair value measurement subject to the general guidance on fair value measurements in ASC 820.

The accretion represents the financing component of deferring the settlement of the liability. However, accretion expense should not be considered interest cost qualifying for capitalization under the guidance on interest capitalization in ASC 835-20. Changes in the asset retirement obligation due to the passage of time should be measured by recognizing accretion expense in a manner that results in a constant effective rate applied to the carrying amount of the liability at the beginning of each period. The rate used should be the credit-adjusted risk-free rate applied when the liability (or component thereof) initially was measured and should not change subsequent to the initial measurement.

In certain circumstances, an asset may reach the end of its useful life prior to the settlement of the ARO. As noted in section 4.2, *Market risk premium*, in those cases, the entity would have factored in the delayed settlement date in estimating the fair value of the ARO (i.e., the credit-adjusted risk-free rate used to discount the liability would have been based on a maturity date that coincides with the expected settlement date). Therefore, the ARO would continue to be accreted until settlement even though the associated asset is fully depreciated.

**Illustration 5-1: Continued accretion of ARO after fully depreciating the asset**

Assume there are multiple options available when decommissioning a nuclear power plant. One option is to maintain the plant in a condition that allows the radioactivity to decay, after which the property is dismantled. This process may take many years (full decommissioning must be complete within 60 years of the plant ceasing operations). Therefore, a plant could be shut down and fully depreciated but the associated ARO has not been settled because the plant has not been fully decommissioned in accordance with the regulatory requirements.

In this case, the ARO should continue to be accreted and associated expense recognized until the plant is fully decommissioned and the legal obligation is settled. It may be appropriate to reduce the ARO during the decommissioning phase if costs are incurred related to settlement of the ARO. Any changes in the estimated cash flows required to settle the obligation after the related asset is fully depreciated should be recognized in income in the period of change.

## 5.2

### Changes in estimates

**Excerpt from Accounting Standards Codification**

**Asset Retirement Obligations**

*Subsequent Measurement*

*Change in Estimate*

**410-20-35-8**

Changes resulting from revisions to the timing or the amount of the original estimate of undiscounted cash flows shall be recognized as an increase or a decrease in the carrying amount of the liability for an asset retirement obligation and the related asset retirement cost capitalized as part of the carrying amount of the related long-lived asset. 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. When asset retirement costs change as a result of a revision to estimated cash flows, an entity shall adjust the amount of asset

retirement cost allocated to expense in the period of change if the change affects that period only or in the period of change and future periods if the change affects more than one period as required by paragraphs 250-10-45-17 through 45-20 for a change in estimate.

### ***Effects of Funding and Assurance Provisions***

#### ***410-20-35-9***

Methods of providing assurance include surety bonds, insurance policies, letters of credit, guarantees by other entities, and establishment of trust funds or identification of other assets dedicated to satisfy the asset retirement obligation. The existence of funding and assurance provisions may affect the determination of the credit-adjusted risk-free rate. For a previously recognized asset retirement obligation, changes in funding and assurance provisions have no effect on the initial measurement or accretion of that liability, but may affect the credit-adjusted risk-free rate used to discount upward revisions in undiscounted cash flows for that obligation.

### ***Implementation Guidance and Illustrations***

#### ***Changes in Assumptions and Legal Requirements***

#### ***410-20-55-19***

This implementation guidance illustrates paragraph 410-20-35-8. Revisions to a previously recorded asset retirement obligation will result from changes in the assumptions used to estimate the expected cash flows required to settle the asset retirement obligation, including changes in estimated probabilities, amounts, and timing of the settlement of the asset retirement obligation, as well as changes in the legal requirements of an obligation. Any changes that result in upward revisions to the expected cash flows shall be treated as a new liability and discounted at the current rate. Any downward revisions to the expected cash flows will result in a reduction of the asset retirement obligation. For downward revisions, the amount of the liability to be removed from the existing accrual shall be discounted at the credit-adjusted risk-free rate that was used at the time the obligation to which the downward revision relates was originally recorded (or the historical weighted-average rate if the year[s] to which the downward revision applies cannot be determined).

#### ***410-20-55-20***

Revisions to the asset retirement obligation result in adjustments of capitalized asset retirement costs and will affect subsequent depreciation of the related asset. Such adjustments are depreciated on a prospective basis.

Changes due to revised estimates of the amount or timing of the original undiscounted cash flows should be recognized by increasing or decreasing the carrying amount of an ARO liability and the carrying amount of the related long-lived asset.

Guidance regarding how frequently an ARO should be reassessed to determine whether a change in estimate of the ARO is necessary is not provided in ASC 410-20. However, we believe that the ARO should be reassessed based on an "indicators" approach similar to the approach used to identify impairment indicators under the guidance for impairment or disposal of long-lived assets in ASC 360-10. That is, the entity should evaluate whether there are any indicators that suggest that the expected cash flows underlying the ARO liability have changed materially. If so, the cash flows should be re-estimated, which may include revisions to estimated probabilities associated with different cash flow scenarios.

We believe that if evidence exists that the ARO liability may have changed materially, such evidence is an indicator that the amount and timing of the cash flows should be re-estimated. For entities that report on a quarterly basis, the assessment should be updated more frequently if evidence arises that suggests that the ARO estimate may have changed by a material amount.

*Upward* revisions in the amount of undiscounted estimated cash flows (that include only the incremental cash flows over the initial projections) should be discounted using the credit-adjusted risk-free rate in effect at the time of the change in estimate (i.e., a current rate) and should also consider the market risk premium that would be appropriate at that time, either in the rate or in the cash flow estimates themselves (see section 4.2, *Market risk premium*). The incremental cash flows associated with upward revisions are considered new AROs (or a new layer) and would be measured at fair value under the general guidance for fair value measurements in ASC 820. The prior cash flows (layer) that are unchanged are not a new measurement; therefore, they are not fair value measurements. Because only the incremental cash flows over the initial projections, not all of the expected cash flows, are to be discounted using a current credit-adjusted risk-free rate, the revised carrying value of the ARO in this situation would not represent a fair value measurement for the entire obligation at the measurement date.

*Downward* revisions in the amount of undiscounted estimated cash flows should be discounted using the credit-adjusted risk-free rate that existed when the original liability was recognized. A downward revision does not take into account current market interest rates and credit spreads and, therefore, is not a fair value measurement subject to the general guidance for fair value measurements in ASC 820. If an entity cannot identify the prior period to which the downward revision relates (e.g., which might be the case if numerous changes in estimates of future cash flows already have been made), it may use a weighted average credit-adjusted risk-free rate to discount the downward revision to estimated future cash flows.

As mentioned in chapter 3, *Recognition*, the Board indicated in paragraph B42 of the Basis for Conclusions that capitalized asset retirement costs are not a separate asset from the related property, plant and equipment. However, some companies may track the ARO asset separately. In those cases, a downward revision may result in a reduction in the liability that is more than the remaining amount allocated to the ARO asset. Questions arise as to whether the ARO asset can maintain a credit balance or if the difference should result in an adjustment to profit and loss. We believe that because the ARO asset does not represent a separate asset, the effect of the downward revision should be assessed on the carrying value of the entire asset (including the non-ARO portion of the asset). A downward revision should not reduce the carrying amount of the underlying asset (including depreciation and the ARO asset) below zero. Therefore, a downward revision that is greater than the carrying amount would result in a profit-and-loss effect.

ASC 410-20 does not address how to account for changes only due to new estimated settlement dates (i.e., timing of the cash flows as opposed to the amount of the cash flows). Because the credit-adjusted risk-free rate is based, in part, on the expected timing of settlement (e.g., a 20-year bond rate for a settlement that is expected to occur in 20 years), we believe that the expected cash flows should be discounted using the rate in effect at the time of the change in estimate. However, because the guidance is not clear in this regard, we believe that other approaches, for example, using the credit-adjusted risk-free rate in effect at the time when the original estimate was made, may be acceptable. We do, however, believe that whatever method is selected should be applied on a consistent basis.

Depreciation of the asset, including the revised estimate of capitalized retirement costs, should be revised in the period of change and future periods if the change affects more than one period as required by the guidance for a change in accounting estimate in ASC 250, *Accounting Changes and Error Corrections*. A change in accounting estimate is accounted for in (1) the period of change if the change affects that period only or (2) the period of change and future periods if the change affects both. A change in accounting estimate is not accounted for by restating or retrospectively adjusting amounts reported in financial statements of prior periods or by reporting pro forma amounts for prior periods. Refer to chapter 4, *Change in accounting estimate*, in our FRD, **Accounting changes and error corrections**, for more information on a change in accounting estimate.



## 5.3 Derecognition

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

##### *Derecognition*

##### *Settlement of an Asset Retirement Obligation*

##### **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.

##### **410-20-40-2**

Paragraph 410-20-25-14 explains how uncertainty surrounding conditional performance of a retirement obligation is factored into its measurement by assessing the likelihood that performance will be required. If, as time progresses, it becomes apparent that retirement activities will not be required, the liability and the remaining unamortized **asset retirement cost** shall be reduced to zero.

##### **410-20-40-3**

Providing assurance that an entity will be able to satisfy its asset retirement obligation does not satisfy or extinguish the related liability. The effect of surety bonds, letters of credit, and guarantees is to provide assurance that third parties will provide amounts to satisfy the asset retirement obligations if the entity that has primary responsibility (the obligor) to do so cannot or does not fulfill its obligations. The possibility that a third party will satisfy the asset retirement obligations does not relieve the obligor from its primary responsibility for those obligations. If a third party is required to satisfy asset retirement obligations due to the failure or inability of the obligor to do so directly, the obligor would then have a liability to the third party.

When AROs are to be settled using internal resources, a "gain" typically will be recognized when settlement occurs (provided that the entity's internal costs are not significantly in excess of those that a third party would incur to settle the obligation). If an entity's estimates of future costs prove accurate and the costs incurred are consistent with the costs a third party would incur, this gain will be equal to the normal profit margin and market risk premium that was assumed in measuring the fair value of the liability.<sup>4</sup> In many cases, the asset retirement activities are completed in one reporting period and, thus, the gain would be recognized in that period. However, when the asset retirement activities take place over more than one reporting period (say, over a period of years as may be the case in reclaiming a mine), we believe that the gain (or loss) should be recognized pro rata (or on another systematic and rational basis) as the asset retirement activities are performed.

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<sup>4</sup> In practice, the gain or loss upon settlement also will reflect any differences between expected cash flows and actual expenditures, assuming the entity did not make revisions to the liability near the period of settlement.

**Illustration 5-2: Settlement using internal resources**

An ARO liability is \$1,000,000 and includes \$200,000 related to the profit margin and market risk premium that a third party would expect to earn in settling the ARO (assume that internal costs incurred to satisfy the ARO are comparable to the costs a third party would incur). Ignoring the effects of discounting and assuming no other changes (including changes in estimates), if \$400,000 in internal costs are incurred related to that ARO during the reporting period, then under this approach the liability would be reduced by \$500,000, resulting in the recognition of a gain of \$100,000 (50% of the profit margin is recognized because 50% of the internal costs have been incurred).

We believe that this view is consistent with the requirements in ASC 410-20 to effectively maintain the liability at an amount consistent with fair value (even though technically, the liability is not remeasured at fair value in subsequent periods). If gain recognition were delayed until the asset retirement activities were complete (i.e., on a “completed contract” basis), then the liability would be overstated because it would be in excess of an amount that the entity would have to pay a third party to assume it. In addition, in its Basis for Conclusions for Statement 143, the FASB discussed the notion that the gain associated with settling an ARO should be recognized in the periods in which the asset retirement activities are performed (Statement 143, paragraph B41). Appendix A, *Comprehensive examples*, and the implementation guidance and illustrations for ASC 410-20 (Example 2, Case A – ASC 410-20-55-37 through 55-38) include illustrations of gain recognition when internal resources are used to settle an ARO.

## 5.4 Impairment of long-lived assets

For purposes of assessing impairment in accordance with the guidance for impairment or disposal of long-lived assets in ASC 360-10, the carrying amount of the asset should include capitalized asset retirement costs. However, cash outflows related to an asset retirement obligation that have been recognized<sup>5</sup> in the financial statements should be *excluded* from both (1) undiscounted cash flows used to test the asset for recoverability and (2) the discounted cash flows used to measure an asset’s current fair value. If the current fair value of the asset is based on a quoted market price and that price considers the costs that will be incurred in retiring that asset, the quoted market price should be increased by the fair value of the asset retirement obligation for purposes of measuring impairment.

## 5.5 Remeasurement of AROs in foreign currencies

Questions have arisen regarding how to remeasure a foreign entity’s ARO from a foreign currency into its functional currency – in particular, whether an asset retirement obligation is a monetary or nonmonetary liability.

The accounting for a remeasurement of the books of record of a foreign entity into its functional currency is addressed in ASC 830-10-45-17. That guidance requires that historical exchange rates be used to remeasure nonmonetary assets and liabilities and that current exchange rates be applied to monetary items. Further, all exchange gains and losses from remeasurement of monetary assets and liabilities should be recognized currently in income. The guidance on foreign currency matters in ASC 830, however, does not clearly define “monetary” and “nonmonetary” for remeasurement purposes.

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<sup>5</sup> For asset retirement obligations that have not been recognized in the financial statements (e.g., the obligating event has not yet occurred), ASC 360-10-55-1 through 55-18, provide that whether such asset retirement costs should be included in the undiscounted cash flows used to test the asset for recoverability depends on management’s intent with respect to the asset. Refer to our FRD, *Impairment or disposal of long-lived assets*, for a more detailed discussion of the issue and examples.

Several alternative views regarding the interaction of the guidance in ASC 830 and ASC 410-20 were expressed by the FASB staff in a 4 May 2005 Emerging Issues Task Force Agenda Committee Report. Significant diversity in practice has developed, with some ARO obligations being accounted for under ASC 830 as monetary liabilities and others as nonmonetary liabilities. Moreover, unless the company has a legal obligation to satisfy the obligation in a currency other than its functional currency, some view the ARO as outside the scope of ASC 830 such that all changes in the liability should be accounted for pursuant to ASC 410-20.

While ASC 410-20 addresses the accounting for changes in the timing or amount of estimated undiscounted cash flows associated with an ARO, it does not address revisions that result solely from changes in foreign currency exchange rates. Additionally, Statement 143, when issued, did not amend the guidance on foreign currency matters with respect to the accounting for remeasurement of an ARO.

Based on discussions with the FASB staff, we believe AROs are most appropriately considered monetary liabilities for purposes of remeasurement under the guidance on foreign currency matters in ASC 830. Accordingly, under this view pursuant to ASC 830, the exchange gain or loss on remeasurement of the ARO should be recognized currently in earnings, unless that obligation is expected to be settled in the functional currency.

The FASB staff previously indicated that it intends to continue internal discussions of the interaction of the guidance in ASC 830 and ASC 410-20. However, the FASB has not pursued the issuance of any further guidance on this issue, and until it does, we believe that alternate interpretations (e.g., the ARO is not a monetary liability) will continue to exist and will be acceptable so long as applied consistently.

# 6 Presentation and disclosure

## 6.1 Required disclosures

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

##### *Disclosure*

##### **410-20-50-1**

An entity shall disclose all of the following information about its **asset retirement obligations**:

- a. A general description of the asset retirement obligations and the associated long-lived assets
- b. The fair value of assets that are legally restricted for purposes of settling asset retirement obligations
- c. A reconciliation of the beginning and ending aggregate carrying amount of asset retirement obligations showing separately the changes attributable to the following components, whenever there is a significant change in any of these components during the reporting period:
  1. Liabilities incurred in the current period
  2. Liabilities settled in the current period
  3. **Accretion expense**
  4. Revisions in estimated cash flows.

##### **410-20-50-2**

If the fair value of an asset retirement obligation cannot be reasonably estimated, that fact and the reasons therefor shall be disclosed.

Oil and gas producing entities must provide additional disclosures. These disclosures are described in Appendix B, *Considerations for oil and gas producing entities*.

Note that AROs are not subject to the disclosure requirements of ASC 820, because such disclosures relate solely to assets and liabilities measured at fair value in periods subsequent to initial recognition.

## 6.2 Presentation

### Excerpt from Accounting Standards Codification

#### Asset Retirement Obligations

##### *Other Presentation Matters*

##### *Classification of Accretion Expense*

##### **410-20-45-1**

**Accretion expense** shall be classified as an operating item in the statement of income. An entity may use any descriptor for accretion expense so long as it conveys the underlying nature of the expense.

**410-20-45-2**

See paragraph 230-10-45-17 for additional information about the classification of cash payments for **asset retirement obligations** as operating items on the statement of cash flows.

***Statement of Cash Flows*****410-20-45-3**

Paragraph 230-10-45-17(e) states that a cash payment made to settle an asset retirement obligation is a cash outflow for operating activities.

Increases in long-lived assets resulting from capitalizing asset retirement costs do not result in the receipt or payment of cash. Accordingly, the increase in long-lived assets should *not* be reflected in the statement of cash flows as cash outflows for investing activities (e.g., as capital expenditures). However, the change should be disclosed as noncash activities either in narrative format or summarized in a schedule in accordance with ASC 230-10-50-3.

# A Comprehensive examples

## Example 1 – Accounting for ARO liabilities assuming no change in estimated cash flows

This example illustrates (1) the initial measurement of an ARO using the expected cash flow approach, (2) subsequent measurements assuming that there are no changes in expected cash flows and (3) settlement of the ARO liability at the end of the asset's useful life.

Exploration Entity (the Entity) is an independent oil and gas exploration and production company that explores for, develops and produces natural gas, crude oil and natural gas liquids in the Gulf of Mexico. On 1 January 20X3, the Entity completes construction and places into service an offshore drilling platform that has an estimated life of five years (a short useful life is used to illustrate the entire period).

The Entity is legally required to dismantle the platform at the end of its useful life, and for purposes of this example, assume that Exploration Entity intends to perform the retirement activities using only internal resources (although the prevalent practice in the oil and gas industry is to use third-party contractors to dismantle oil drilling rigs and platforms). Significant assumptions used in the estimate of fair value are as follows:

- ▶ The estimate of labor costs is based on current market wages required to hire contractors to dismantle offshore platforms.
- ▶ Overhead and equipment charges are allocated using a rate of 50% of labor costs. The Entity believes that its overhead rates are similar to the rates used by other third-party contractors in the industry.
- ▶ A contractor typically adds a markup on labor and allocated internal costs to provide a profit margin. The Entity believes that contractors generally earn a profit margin of approximately 25% to dismantle offshore oil platforms.
- ▶ A contractor typically would demand and receive a market risk premium for bearing the uncertainty and unforeseeable circumstances inherent in locking in today's price for a project that will not occur for five years. The Entity estimates the amount of that premium to be 4% of the expected cash flows, adjusted for inflation.
- ▶ The risk-free rate of interest on 1 January 20X3 is 4%. The Entity increases that rate by 2% to reflect the effect of its credit standing. Therefore, the credit-adjusted risk-free rate is 6%.
- ▶ The Entity assumes a rate of inflation of 3% over the five-year period.
- ▶ On 31 December 20X7, the Entity settles its asset retirement obligation by using its own resources at a cost of \$375,000.

### *Initial measurement of the ARO liability*

The Entity makes a probability assessment as to the range of cash flow estimates for labor costs as follows:

Cash flow estimate	Likelihood of outcome	Expected cash flows
\$ 150,000	20%	\$ 30,000
200,000	60%	120,000
250,000	20%	<u>50,000</u>
		\$ 200,000

The ARO liability is calculated as follows:

Labor	\$ 200,000
Overhead (50% of labor)	100,000
Contractor's margin (\$300,000 x 25%)	<u>75,000</u>
Expected cash flows before inflation adjustment	375,000
Inflation factor (3% for five years)	<u>1.1593</u>
Expected cash flows adjusted for inflation	434,738
Market risk premium (4% x \$434,738)	<u>17,390</u>
Expected cash flows, adjusted for market risk	\$ 452,128
Expected present value using credit-adjusted risk-free rate of 6% for five years	\$ 337,856

The Entity recognizes an ARO and capitalizes an amount for an asset retirement cost. Accordingly, the entry to recognize the ARO is:

Long-lived asset (asset retirement cost)	\$ 337,856	
ARO liability		\$ 337,856

***Subsequent measurements assuming no changes in estimated cash flows***

Accretion expense is calculated by accreting the ARO liability using a 6% rate over the expected life of the asset and depreciation expense is calculated on a straight-line basis as follows:

Year	Liability at Jan. 1	Accretion expense	Liability at Dec. 31	Depreciation expense
20X3	\$ 337,856	\$ 20,271	\$ 358,127	\$ 67,571
20X4	358,127	21,488	379,615	67,571
20X5	379,615	22,777	402,392	67,571
20X6	402,392	24,144	426,536	67,571
20X7	426,536	<u>25,592</u>	452,128	<u>67,572</u>
		<u>\$ 114,272</u>		<u>\$ 337,856</u>

The Entity recognizes accretion expense for the ARO and accretes the ARO liability accordingly in year 20X3 as follows:

Accretion expense	\$ 20,271	
ARO liability		\$ 20,271

Similar journal entries would be made in years 20X4 - 20X7 to recognize Accretion expense according to the amounts outlined in the table above.

The Entity recognizes the incremental depreciation expense from capitalizing the asset retirement costs in each of the five years as follows:

Depreciation expense (asset retirement cost)	\$ 67,571	
Accumulated depreciation		\$ 67,571

**Settlement of the ARO liability**

On 31 December 20X7, the Entity settles the ARO by using its own resources at a cost of \$375,000. Assuming no changes in the cash flows used to estimate the obligation during the five-year period, the Entity would recognize a \$77,128 gain on settlement of the obligation calculated as follows:

Labor	\$	250,000
Overhead		<u>125,000</u>
Total costs actually incurred		375,000
ARO liability		<u>452,128</u>
Gain on settlement of obligation	\$	77,128

The entry to record the settlement of the ARO liability at 31 December 20X7 is:

ARO liability	\$	452,128	
Cash			\$ 375,000
Gain on settlement of ARO			77,128

As a result, the cumulative expense associated with the ARO is \$375,000, the total cost actually incurred, which is recognized as \$114,272 of accretion expense, \$337,856 of depreciation expense and \$77,128 as a gain on settlement.

**Example 2 – Accounting for ARO liabilities assuming a change in estimated cash flows**

All of the initial assumptions from Example 1 remain the same. However, on 31 December 20X4, the Entity revises its estimate of labor costs to reflect an increase in marketplace rates. In addition, it revises the probability assessments related to the labor costs. The Entity's credit standing improves over time, causing its credit-adjusted risk-free rate to decrease by 1% to 5% at 31 December 20X4. Because of the long-term nature of the ARO, changes in estimates may occur frequently.

*Initial measurement of the ARO liability*

On 1 January 20X3, the Entity recognizes an ARO (see Example 1 for calculation) and capitalizes the amount for an asset retirement cost. Accordingly, the entry to record the initial recognition of the liability is:

Long-lived asset (asset retirement cost)	\$	337,856	
ARO liability			\$ 337,856

On 31 December 20X3, no change in the estimated cash flows will have occurred and the entry will be the same as in Example 1 to record depreciation and accretion expense:

Depreciation expense (asset retirement cost)	\$	67,571	
Accumulated depreciation			\$ 67,571
Accretion expense	\$	20,271	
ARO liability			\$ 20,271



### Recording a change in estimate of an ARO

On 31 December 20X4, the Entity revises its estimate of labor cost to reflect an increase in the labor rates in the marketplace. In addition, it revises the probability assessment related to those labor costs. The revised labor cost assessment is:

Cash flow estimate	Likelihood of outcome	Expected cash flows
\$ 200,000	30%	\$ 60,000
250,000	40%	100,000
300,000	30%	<u>90,000</u>
		\$ 250,000

The change in labor costs results in an upward revision to the expected cash flows; consequently, the incremental expected cash flows are discounted at the current credit-adjusted risk-free rate of 5%. All other assumptions remain unchanged. The incremental ARO liability is calculated as follows:

Incremental expected labor	\$ 50,000
Overhead (50% of labor)	25,000
Contractor's margin (\$75,000 x 25%)	<u>18,750</u>
Expected cash flow before inflation adjustment	93,750
Inflation factor (3% for three years)	<u>x 1.0927</u>
Expected cash flow adjusted for inflation	102,441
Market risk premium (4% x \$102,441)	<u>4,098</u>
Expected cash flows, adjusted for market rate	\$ 106,539
Expected present value of incremental ARO using credit-adjusted risk-free rate of 5% for three years	\$ 92,032

Beginning 1 January 20X5, the revised liability represents an aggregation of two layers: the original liability, which is accreted at a rate of 6%, and the new incremental liability, which is accreted at a rate of 5%.

Year	Liability at Jan. 1	Accretion expense	Change in estimate	Liability at Dec. 31	Depreciation expense
20X3	\$ 337,856	\$ 20,271	–	\$ 358,127	\$ 67,571
20X4	358,127	21,488	\$ 92,032	471,647	67,571
20X5	471,647	27,379		499,026	98,249
20X6	499,026	28,976	–	528,002	98,249
20X7	528,002	30,665	–	558,667	98,249

The following entries would be recorded at 31 December 20X4 to record depreciation and accretion expense:

Depreciation expense (asset retirement cost)	\$ 67,571	
Accumulated depreciation		\$ 67,571
Accretion expense	\$ 21,488	
ARO liability		\$ 21,488

The following adjustment is made to the recorded amount of the ARO and the related long-lived asset to record the revised estimates at 31 December 20X4:

Long-lived asset (asset retirement cost)	\$ 92,032	
ARO liability		\$ 92,032

The following entries will be made to record depreciation and accretion expense during years 20X5-20X7:

Depreciation expense (asset retirement cost)	\$	98,249	
Accumulated depreciation			\$ 98,249
Accretion expense			
ARO liability			

Per interest accretion schedule above

Accretion expense is calculated as follows:

Year	Original			Incremental liability			Total liability		
	Liability at Jan. 1	Accretion expense	Liability at Dec. 31	Liability at Jan. 1	Accretion expense	Liability at Dec. 31	Liability at Jan. 1	Accretion expense	Liability at Dec. 31
20X3	\$ 337,856	\$ 20,271	\$ 358,127	-	-	-	\$ 337,856	\$ 20,271	\$ 358,127
20X4	358,127	21,488	379,615	-	-	\$ 92,033	358,127	21,488	471,648
20X5	379,615	22,777	402,392	\$ 92,032	\$ 4,602	96,634	471,648	27,379	499,026
20X6	402,392	24,144	426,536	96,634	4,832	101,466	499,026	28,976	528,002
20X7	426,536	25,592	452,128	101,466	5,073	106,539	528,002	30,665	558,667

### ***Settlement of the asset retirement obligation liability***

The Entity settles its ARO ratably over the two-year period ending 31 December 20X7, by using its own resources at a cost of \$450,000. The Entity now will recognize a gain on settlement of the obligation of \$108,667, calculated as follows:

Labor	\$	300,000
Overhead		<u>150,000</u>
Total costs actually incurred		450,000
ARO liability		<u>558,667</u>
Gain on settlement of obligation	\$	108,667

The following entries are made to record the settlement and related gain:

At 31 December 20X6

ARO liability	\$	279,333	
Cash			\$ 225,000
Gain on settlement of ARO			54,333

At 31 December 20X7

ARO liability	\$	279,334	
Cash			\$ 225,000
Gain on settlement of ARO			54,334

## Disclosure example for the year ended 31 December 20X4

### Note X: Asset retirement obligation

On 1 January 20X3, the Entity completed construction of an offshore drilling platform that has an estimated life of five years. The Entity is legally required to dismantle the platform at the end of its useful life. In accordance with ASC 410-20, *Asset Retirement and Environmental Obligations*, the Entity recognized the fair value of a liability for an ARO in the amount of \$337,856. The Entity capitalized that cost as part of the carrying amount of the drilling platform, which is depreciated on a straight-line basis over five years.

On 31 December 20X4, the Entity revised its estimate of labor costs to reflect an increase in marketplace rates. In addition, it revised the probability assessments related to the various estimates of labor costs. This change in estimate did not result in any charge to income for the year ended 31 December 20X4. The following table describes all changes to the Entity's ARO liability:

	<b>31 December</b>	
	<b>20X3</b>	<b>20X4</b>
Asset retirement obligation at beginning of year	\$ -	\$ 358,127
Liabilities incurred	337,856	-
Accretion expense	20,271	21,488
Revision in estimated cash flows	<u>-</u>	<u>92,032</u>
Asset retirement obligation at end of year	<u>\$ 358,127</u>	<u>\$ 471,647</u>

See additional illustrations in ASC 410-20-55-31 through 55-48.

# B Considerations for oil and gas producing entities

Oil and gas producing entities should account for dismantlement, restoration and abandonment costs in accordance with ASC 410-20. For entities following the successful efforts method, this results in capitalized asset retirement costs being included in the amortization base for computing depreciation, depletion and amortization (DD&A).

For entities following the full cost method, Rule 4-10(c)(2) of Regulation S-X requires all costs associated with property acquisition, exploration and development activities to be capitalized. Rule 4-10(c)(3)(i) specifies that the costs to be amortized include capitalized costs (excluding certain costs described in Rule 4-10(c)(3)(ii)), estimated future costs to be incurred in developing proved reserves, and estimated dismantlement and abandonment costs. When future development activities on proved reserves may result in additional estimated dismantlement and abandonment costs, the estimated asset retirement costs are not capitalized under ASC 410-20 until those development activities occur. Staff Accounting Bulletin (SAB) Topic 12.D.4.b clarifies that those additional dismantlement and abandonment costs should be included in the costs to be amortized before they are capitalized.

Entities are not permitted to offset estimated salvage values against AROs because doing so does not recognize the liability that has been incurred. Nonetheless, estimated salvage values, if significant, should be taken into account in determining DD&A rates.

In addition, oil and gas entities must recognize an ARO liability as incurred under ASC 410-20 even if they plan to sell the facility or property before the end of its useful life to avoid the obligation.

An uncertain life for an asset does not always indicate an indefinite life. Although a complete system may have an indefinite life, the individual assets comprising the system may not have an indefinite life, but, rather, there may be uncertainty around the timing of the obligation. In addition, the guidance in ASC 410-20 provides more specificity regarding what would qualify as sufficient information to require recognition of the obligation. See further discussion above in section 3.2, *Obligations with uncertainty about timing or method of settlement*.

## **Amortization of the capitalized asset retirement cost**

In some cases, the expected settlement date that is used to measure the initial fair value of an ARO may be different than the related asset's current expected useful life as indicated by its remaining oil and gas reserves. For example, an entity using the full cost method may have an offshore production platform that may be expected to be used in the production of probable and/or possible oil and gas reserves, which are not used in calculating DD&A. Thus, the ARO likely would be measured assuming the platform will not be dismantled until the probable and/or possible reserves are depleted.

Entities using the full cost method amortize capitalized costs for their oil and gas properties, including capitalized asset retirement costs, over all proved reserves. In calculating the total amortization base, entities include expected development costs related to proved undeveloped reserves. The SEC staff clarified in SAB Topic 12.D.4.b that those expected development costs should include existing asset retirement costs and the expected costs of any incremental ARO that will be incurred in the development of proved reserves. However, the full cost rules permit entities to exclude certain costs from the amortization base when calculating DD&A, including the portion of a major development project associated with

development of future reserves (i.e., those that are probable or possible, not those that are proved).<sup>6</sup> When excluding such amounts, the entity should consider the carrying cost of the project, including the capitalized asset retirement costs, which are then effectively deferred from amortization until the project progresses and related costs are transferred back into the amortization base.

Entities that use the successful efforts method amortize the capitalized costs of wells and related equipment and facilities over proved, developed reserves. Entities are permitted to exclude from the amortization base the portion of major development projects associated with future development of proved undeveloped reserves, including the related portion of the associated asset retirement costs. As those reserves are developed, the related portion of the asset retirement costs that was deferred from amortization is transferred back into the amortization base with the other related costs of that portion of the project.

### **Assessing impairment under the successful efforts method and the full cost ceiling test**

For impairment analyses of oil and gas properties accounted for using the successful efforts method, liabilities recognized for AROs should *not* be deducted from the carrying value of the asset being tested for impairment, and future cash outflows related to the obligation should *not* be included in estimates of future cash flows related to the asset, both when determining recoverability (undiscounted cash flows) and fair value (discounted cash flows).

SAB Topic 12.D.4.a clarifies that entities using the full cost method also should follow this treatment in performing the full cost ceiling test. Thus, the future cash outflows associated with settling AROs that have been capitalized should be excluded from the computation of the present value of estimated future net revenues for purposes of the full cost ceiling calculation. If an entity were to calculate the full cost ceiling by reducing expected future net revenues by the cash flows required to settle the ARO, then the effect would be to “double-count” such costs in the ceiling test. That is, the assets that must be recovered would be increased while the future net revenues available to recover the assets would be reduced by the amount of the ARO settlement cash flows.

### **International oil and gas operations**

Arrangements with foreign governments concerning oil and gas operations vary from country to country and will need to be evaluated based on the specific facts and circumstances to determine if there is an ARO that should be recognized. In many cases, the host country owns all of the country’s natural resources, and reversionary production rights are established in favor of the host country. The arrangement with the host country should be carefully reviewed to determine whether the oil and gas entity is required to restore the production area to its preexisting condition. Entities should consider international practices and expectations in arriving at their conclusion.

In some cases, the oil and gas entity may be required to provide for AROs through the creation of a sinking fund, which is either funded directly or through a portion of production proceeds. In these arrangements, if the producing asset reverts to the host country before the end of the producing asset’s life, the sinking fund transfers to the host country, relieving the oil and gas entity of the ARO (in connection with the transfer of the sinking fund, the oil and gas entity typically obtains a full release and indemnity for the ARO).

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<sup>6</sup> SEC Regulation S-X Rule 4-10(c)(3)(ii)(B).

The guidance in ASC 410-20-40-3 is clear that establishment of a sinking fund or other method of providing assurance that the entity will be able to satisfy its obligation (e.g., surety bonds, letters of credit and guarantees) does not satisfy or extinguish the ARO. Accordingly, the sinking fund and the ARO should be recognized separately on the balance sheet. However, the existence of the sinking fund does affect the determination of the credit-adjusted risk-free rate used to discount the ARO. If the amount of the sinking fund is less than the recognized ARO, then a gain would be recognized upon obtaining a release from the ARO from the host country.

#### **Disclosures about oil and gas producing activities**

The guidance in ASC 932-235-50 does not address specific disclosure requirements related to AROs for oil and gas producing entities but requires other broader disclosures that may or may not include the effects of AROs. In a letter dated 24 February 2004 to registrants identified as being primarily engaged in the production of oil and gas, the SEC's Division of Corporation Finance addressed questions that had arisen with respect to the interaction of the required disclosures for oil and gas producing activities and AROs. After consideration by the SEC staff, including discussions with the FASB staff and to maintain comparability among oil and gas entities in preparing disclosures, the SEC staff offered the following observations about the required disclosures that registrants should consider.

#### ***Disclosures of capitalized costs relating to oil and gas producing activities (capitalized costs)***

The SEC staff believes the reported carrying value of oil and gas properties should include the related asset retirement costs, and accumulated DD&A should include the accumulated allocation of the asset retirement costs since the beginning of the respective property's productive life. When the FASB originally deliberated Statement 143, it noted in paragraph B46 of the Basis for Conclusions that:

a requirement for capitalization of an asset retirement cost along with a requirement for the systematic and rational allocation of it to expense achieves the objectives of (a) obtaining a measure of cost that more closely reflects the entity's total investment in the assets and (b) permitting the allocation of the cost, or portions thereof, to expense in the periods in which the related asset is expected to provide benefits.

Excluding net capitalized asset retirement costs from the capitalized costs disclosure would essentially result in a presentation of capitalized costs that is not reflective of the entity's total investment in the asset, which is contrary to one of the objectives of the accounting for AROs.

#### ***Disclosures of costs incurred in oil and gas property acquisition, exploration and development activities (costs incurred)***

The SEC staff believes an entity should include asset retirement costs in its costs incurred disclosures in the year that the liability is incurred, rather than on a cash basis. An entity is required to disclose costs incurred during the year whether those costs are capitalized or charged to expense. The SEC staff believes that the disclosure was intended to be on an accrual basis rather than on a cash basis. Additionally, ASC 410-20-25-4 requires an entity to recognize the fair value of a liability for an ARO in the period in which it is incurred (if a reasonable estimate of fair value can be made) through the acquisition or development of an asset or through normal operation of the asset. The cost of an ARO is not incurred when the asset is retired and the obligation is settled. Accordingly, an entity should disclose the costs associated with an ARO in the period in which that obligation is incurred. That is, the costs incurred disclosures in a given period should include ARO capitalized during the year and any gains or losses recognized upon settlement of asset retirement obligations during the period.

***Disclosure of the results of operations for oil and gas producing activities (results of operations)***

The SEC staff believes accretion of the liability for an ARO should be included in the results of operations disclosure either as a separate line item, if material, or included in the same line item as it is presented on the statement of operations. When the FASB originally deliberated Statement 143, it noted in the Basis for Conclusions that the accretion expense resulting from recognition of the changes in the liability for an ARO due to the passage of time should be classified as an operating item in the statement of income. Therefore, it follows that the accretion expense related to oil and gas properties' AROs should be included in the results of operations disclosure.

***Disclosure of a standardized measure of discounted future net cash flows relating to proved oil and gas reserve quantities (standardized measure)***

The SEC staff believes that an entity should include the future cash flows related to the settlement of an ARO in its standardized measure disclosure. ASC 932-235-50-30 states: "A standardized measure of discounted future net cash flows relating to an entity's interests in both of the following shall be disclosed as of the end of the year: (a) proved oil and gas reserves and (b) oil and gas subject to purchase under long-term supply, purchase or similar agreements and contracts ..." The SEC staff believes that the requirement to disclose net cash flows relating to an entity's interest in oil and gas reserves requires an entity to include the cash outflows associated with the settlement of an ARO. Exclusion of the cash flows associated with a retirement obligation would be a departure from the required disclosure. However, an entity is not prohibited from disclosing the fact that cash flows associated with AROs are included in its standardized measure disclosure as a point of emphasis.

# C Abbreviations used in this publication

<b>Abbreviation</b>	<b>FASB Accounting Standards Codification</b>
ASC 210-20	FASB ASC Subtopic 210-20, <i>Balance Sheet – Offsetting</i>
ASC 230	FASB ASC Topic 230, <i>Statement of Cash Flows</i>
ASC 250	FASB ASC Topic 250, <i>Accounting Changes and Error Corrections</i>
ASC 360-10	FASB ASC Subtopic 360-10, <i>Property, Plant, and Equipment – Overall</i>
ASC 410-20	FASB ASC Subtopic 410-20, <i>Asset Retirement and Environmental Obligations – Asset Retirement Obligations</i>
ASC 410-30	FASB ASC Subtopic 410-30, <i>Asset Retirement and Environmental Obligations – Environmental Obligations</i>
ASC 820	FASB ASC Topic 820, <i>Fair Value Measurement</i>
ASC 830	FASB ASC Topic 830, <i>Foreign Currency Matters</i>
ASC 835-20	FASB ASC Subtopic 835-20, <i>Interest – Capitalization of Interest</i>
ASC 840	FASB ASC Topic 840, <i>Leases</i>
ASC 842	FASB ASC Topic 842, <i>Leases</i>
ASC 932	FASB ASC Topic 932, <i>Extractive Activities – Oil and Gas</i>
<b>Abbreviation</b>	<b>Other Authoritative Standards</b>
SEC Regulation S-X Rule 4-10	SEC Regulation S-X, Article 4, Rule 4-10, <i>Financial accounting and reporting for oil and gas producing activities pursuant to the Federal securities laws and the Energy Policy and Conservation Act of 1975</i>
SAB Topic 12	SEC Staff Accounting Bulletin Topic 12, <i>Oil and Gas Producing Activities</i>
SAB Topic 12.D	SEC Staff Accounting Bulletin Topic 12.D, <i>Application of Full Cost Method of Accounting</i>
<b>Abbreviation</b>	<b>Non-Authoritative Standards</b>
CON 6	FASB Statement of Financial Accounting Concepts No. 6, <i>Elements of Financial Statements</i>
Statement 143	FASB Statement No. 143, <i>Accounting for Asset Retirement Obligations</i>



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