Chapter 28A
"OH, *THAT* THREE BILLION DOLLARS": EMERGING ISSUES IN REPORTING ENVIRONMENTAL LIABILITIES

Greg Rogers
Advanced Environmental Dimensions, LLC
Dallas, Texas

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§ 28A.01 Introduction

Against the backdrop of heightened concerns about corporate social responsibility and increasing audit scrutiny following the Sarbanes-Oxley Act,[1] accounting principles are undergoing transformational change that will affect how companies identify, assess, measure, and report environmental obligations. This chapter presents new rules for environmental liabilities under U.S. and international accounting standards and examines emerging issues of great importance to mining companies.

§ 28A.02 Environmental Financial Reporting 101

[1] The Law and Accounting Sandwich

Environmental financial reporting—the subset of financial reporting dealing with environmental-related information—involves a complex and sometimes bewildering interaction of corporate, securities, and bankruptcy law, financial accounting standards, and environmental law. The interrelationship of these three elements can be depicted as a sandwich.

The top slice of bread represents a combination of corporate, securities, and bankruptcy law. Public corporations in the United States are subject to financial reporting requirements under the federal securities laws and regulations promulgated by the Securities and Exchange Commission (SEC). The federal securities laws, including Sarbanes-Oxley, impose potential liability for issuers that fail to accurately report material environmental financial information in accordance with generally accepted accounting principles (GAAP).

SEC Regulation S-X sets forth the form and content required of financial statements included in filings with the SEC.[1.1] Rule 210.4-01 of Regulation S-X provides that financial statements filed with the SEC, but not prepared in accordance with GAAP, are "presumed to be misleading or inaccurate, despite footnote or other disclosures, unless the [SEC] has otherwise provided."[2] Thus, when public companies fail to adhere to GAAP, they are deemed to be in violation of the federal securities laws.

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[1] 15 USC §§ 7201-7266.

[1.1] 17 CFR Part 210.

[2] 17 CFR § 210.4-01 (a) (1).

Both public and private entities are further subject to various financial reporting considerations arising under state and federal corporate and bankruptcy laws. These laws contain provisions intended to protect shareholders and creditors at a time when the corporation is at or near insolvency. Although corporate and bankruptcy laws do not impose financial reporting obligations, they nonetheless belong in the top slice of bread along with the securities laws because they provide a strong motivation for corporate boards to demand an accurate assessment of the corporation's current and anticipated future financial condition, including a thorough accounting of environmental financial information.

The meat in the sandwich represents the financial accounting standards, commonly known as generally accepted accounting principles, which set forth rules and principles for fairly presenting financial information in the financial statements. Entities subject to U.S. federal securities laws are required to report their financial condition and results of operations in accordance with GAAP. Although private entities are not legally required to follow GAAP, stockholders and lenders often insist that they do so.

Environmental financial reporting is unusual because the most important accounting principles applicable to environmental matters expressly rely on determinations of environmental law. The bottom slice of bread represents the complex interaction of the various elements of environmental protection. These elements include:

- *Public policy regarding protection of the environment and conservation of natural resources.* Public policy is dynamic. For example, since the adoption of the major U.S. environmental statutes, environmental public policy has evolved from a government command-and-control orientation toward a model of self-regulation combined with increased disclosure and transparency of environmental performance. Public policy may be reflected in various forms, including environmental laws, government enforcement policies, and investor expectations of corporate environmental responsibility and stewardship.
- *Federal, state, and local environmental laws.* These laws form the basis for most environmental legal obligations and loss exposures that give rise to environmental liabilities reported in the financial statements under GAAP. Legal de-

terminations made by the reporting entity's environmental lawyers bear directly on whether environmental matters must be presented in the financial statements.

- *Environmental science and engineering*. The disciplines of environmental science and engineering are required to assess the actual or potential risk to human health and the environment posed by pollution conditions and society's use of natural resources. Environmental law underlies the need for most environmental financial information, but the identification, evaluation, and measurement of environmental transactions, events, and conditions typically involve an interdisciplinary team of professionals with skills in environmental law, science, and engineering.

[2] Generally Accepted Accounting Principles (GAAP)

Audited financial statements of public and nonpublic companies alike are reviewed by independent public accounting firms for conformance with GAAP. GAAP comprises a set of rules and practices that are recognized as authoritative guidance for financial reporting purposes. These principles are *generally accepted* because an authoritative body has set them or because the accounting profession widely accepts them as appropriate. The Financial Accounting Standards Board (FASB), the American Institute of Certified Public Accountants (AICPA), and the SEC are the primary authoritative sources for GAAP pronouncements in the United States.[3] U.S. GAAP includes FASB Statements of Financial Accounting Standards (SFASs), FASB Interpretations of FASs (FINs), SEC Releases and Staff Accounting Bulletins (SABs), AICPA Accounting Principles Board Opinions (APBs),

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[3] FASB is responsible for identifying the sources of accounting principles and providing entities with a framework for selecting the principles used in the preparation of financial statements that are presented in conformity with GAAP. FASB is part of a structure that is independent of all other business and professional organizations. Before the present structure was created, financial accounting and reporting standards were established first by the Committee on Accounting Procedure of the American Institute of Certified Public Accountants (1936–1959) and then by the Accounting Principles Board, also a part of the AICPA (1959–73). Pronouncements of those predecessor bodies remain in force unless amended or superseded by the FASB. *See* Statement of Financial Accounting Standards (SFAS) No. 162, *The Hierarchy of Generally Accepted Accounting Principles*.

AICPA Accounting Research Bulletins (ARBs), and AICPA Statements of Position (SOPs).

Outside the United States, the International Accounting Standards Board (IASB) is the leading authority on GAAP. The IASB is an accounting standard-setter based in London which is committed to developing a single set of global accounting standards. Currently, the IASB is cooperating with FASB and other national accounting standard-setters to achieve convergence in accounting standards around the world. Accounting pronouncements issued by the IASB are known as International Financial Reporting Standards (IFRSs). Standards adopted by the IASB's predecessor, the International Accounting Standards Committee (IASC) are known as International Accounting Standards (IASs). When the IASB replaced the IASC in 2001, it adopted all IASs then in force.

It now appears that the days of U.S. GAAP are numbered. The SEC recently announced that it has been working for months on a high priority project to set milestones for U.S. companies to begin using IFRS rather than U.S. GAAP.[4]

§ 28A.03 Asset Retirement Obligations (AROs)

[1] Introduction

Asset retirement obligations (AROs) are legal obligations associated with the retirement of a tangible long-lived asset (e.g., a mine or subcomponent thereof) that result from the acquisition, construction, development, and (or) the normal operation of a long-lived asset.[4.1] Statement of Financial Accounting Standards No. 143 (SFAS 143) governs accounting for AROs under U.S. GAAP. There is no accounting standard for AROs under IFRS. Under a proposed IFRS standard, it is contemplated that AROs will be addressed in the same manner as other types of nonfinancial liabilities.[4.2]

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[4] *Moving toward IFRS a priority this year, SEC says: Roadmap to move away from GAAP may emerge in coming months*, Financial Week, June 5, 2008, http://www.financialweek.com/apps/pbcs.dll/article?AID=/20080605/REG/770552985/-1/TOC.

[4.1] SFAS 143 ¶ 2.

[4.2] Exposure Draft of Proposed Amendments to IAS 37 Provisions, Contingent Liabilities and Contingent Assets and IAS 19 Employee Benefits (June 2005) (IAS 37ED), http://www.iasb.org/NR/rdonlyres/1CFBC1A8-50F1-4BF3-9A33-579F849560C8/0/EDAmendstoIAS37.pdf.

Legal obligations to perform mine closure and reclamation are AROs. SFAS 143 requires mining companies to record the fair value of the liability for mine closure and reclamation in the period in which the obligation is incurred if a reasonable estimate of fair value can be made.[4.3] The fair value of a liability for an ARO is "the amount at which that liability could be settled in a current transaction between willing parties, that is, other than in a forced or liquidation transaction."[4.4]

An expected present value technique will usually be the only appropriate technique with which to estimate the fair value of an ARO. SFAS 143 specifies that companies must use their credit-adjusted risk-free rate to discount the expected cash flows.[4.5] Mine closure and reclamation costs that are anticipated to be incurred 30, 50, or even 60 years in the future will thus be heavily discounted to reflect the time value of money. Through the passage of time, the amount of the recorded ARO will increase to reflect the unwinding of the initial discounting in an accounting process known as accretion expense.[4.6] Similarly, the capitalized asset costs are depreciated over the useful life of the asset. In theory, at the time of anticipated settlement of the ARO, the capitalized asset layer will be zero and the recorded liability will equal the estimated current cost to complete the retirement activities.

A liability for an asset retirement obligation may be incurred over more than one reporting period if, as is often the case in mining, the events that create the obligation occur over more than one reporting period. Any incremental liability incurred in a subsequent reporting period is considered to be an additional layer of the original liability.[4.7] Upon initial recognition of a liability for an ARO, the company also capitalizes an asset retirement cost by in-

[4.3] SFAS 143 ¶ 3.

[4.4] SFAS 143 ¶ 7.

[4.5] SFAS 143 ¶ A21, as amended by SFAS 157 § E23(g). A credit-adjusted risk-free rate is an interest rate that equates to a risk-free interest rate adjusted for the effect of the company's credit standing. In determining the adjustment for the effect of its credit standing, an entity should consider the effects of all terms, collateral, and existing guarantees that would affect the amount required to settle the liability.

[4.6] SFAS 143 ¶ 14.

[4.7] SFAS 143 ¶ 10.

creasing the carrying amount of the related long-lived asset by the same amount as the liability.[4.8]

Typically, settlement of an ARO is not required until the associated asset is retired. However, certain circumstances may exist in which partial settlement of an ARO is required or performed before the asset is fully retired.[5] For example, best practice in the mining industry employs concurrent reclamation, in which portions of the mine are closed and reclaimed throughout the life of the mine, instead of deferring all closure activities until the end of the life of the mine. In modern mining situations, several layers of AROs may be recognized and settled throughout the course of a mine's operating life. The layered approach to mine closure and reclamation will have the effect of reducing the impact of discounting in estimating AROs.

Accounting for AROs is an important financial reporting consideration for mining companies. The following sections discuss ARO accounting issues of particular concern.

[2] Distinguishing AROs from Environmental Remediation Liabilities

An obligation that results from the improper operation of an asset is not within the scope of SFAS 143 but may be subject to the provisions of AICPA Statement of Position 96-1 (SOP 96-1), *Environmental Remediation Liabilities*.[6]

The recognition and measurement standards for AROs differ markedly from those for environmental remediation liabilities. Thus, determining the correct classification is important. In many cases, the classification of a particular environmental obligation as either an ARO or an environmental remediation liability will depend on whether the legal obligation resulted from the normal operation, versus the improper operation, of the asset.

SFAS 143 states that whether an obligation results from the normal operation of a long-lived asset may require judgment and provides the following clarifications:

[4.8] SFAS 143 ¶ 12.

[5] SFAS 143 ¶ A7.

[6] SFAS 143 ¶ 2.

> Obligations that result from the normal operation of an asset should be predictable and likely of occurring. For example, consider a company that owns and operates a nuclear power plant. That company 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.[7]
>
> An environmental remediation liability that results from the improper operation of a long-lived asset does not fall within the scope of this Statement. 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 a company'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 Statement. 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 shall be accounted for under the provisions of this Statement.[8]
>
> The Board also clarified the scope of this Statement relative to the scope of AICPA Statement of Position 96-1, *Environmental Remediation Liabilities*. This Statement applies to legal obligations associated with asset retirements. Legal obligations exist as a result of existing or enacted law, statute, ordinance, or written or oral contract or by legal construction of a contract under the doctrine of promissory estoppel. SOP 96-1 applies to environmental remediation liabilities that relate to pollution arising from some past act, generally as a result of the provisions of Superfund, the corrective-action provisions of the Resource Conservation and Recovery Act of 1976, or analogous state and non-U.S. laws and regulations. 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 shall be accounted for under the provisions of this Statement. *An environmental remediation liability that results from other than the normal operation of a long-lived asset probably falls within the scope of SOP 96-1*.[9]

The terms "improper," "catastrophic," and "normal" as used in SFAS 143 can be interpreted in the historical context of SFAS 5,

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[7] SFAS 143 ¶ A12.

[8] SFAS 143 ¶ A13 (emphasis added).

[9] SFAS 143 ¶ B20 (emphasis added).

Accounting for Contingencies, and SOP 96-1, which predated SFAS 143. Paragraph 38 of SFAS 5 states:

> With respect to unasserted claims and assessments, an enterprise must determine the degree of probability that a suit may be filed or a claim or assessment may be asserted and the possibility of an unfavorable outcome. For example, a catastrophe, accident, or other similar physical occurrence predictably engenders claims for redress, and in such circumstances their assertion may be probable. . . .[10]

In the context of SFAS 5, terms like "improper," "catastrophic," and "normal" would be used to assess both the probability that an existing environmental condition would give rise to the future assertion of a legal claim and the probability that such claims would result in an unfavorable outcome. In 1975, when SFAS 5 was adopted, it would have been unusual for "normal" operations to give rise to assertion of an environmental legal claim. This was soon to change with the enactment of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980.

SOP 96-1 provides guidance in accounting for environmental remediation obligations that are subject to pending or threatened legal enforcement, typically under CERCLA or the Resource Conservation and Recovery Act (RCRA). It states that "[CERCLA] liability is imposed regardless of whether a party was negligent, whether the site was in compliance with environmental laws at the time of the disposal, or whether the party participated in or benefited from the deposit of the hazardous substances."[11] By 1996, the AICPA had recognized that environmental remediation liabilities could arise under CERCLA from "normal" as well as "improper" operations.

FASB recognized that unasserted claims and assessments for environmental remediation obligations may have the characteristics of both loss contingencies (accounted for under SFAS 5 and SOP 96-1) and asset retirement obligations (accounted for under SFAS 143). The "normal" versus "improper" operation criterion serves to differentiate between these two accounting methods and thereby avoid overlap.

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[10] SFAS 5 ¶ 38.

[11] SOP 96-1 ¶ 2.3.

Reading the two standards together suggests that environmental contamination arising from unexpected and extraordinary events—which are likely to give rise to legal claims—should be accounted for under SOP 96-1, while environmental contamination arising from routine and non-extraordinary activities—which are not likely to give rise to legal claims (at least not in the near term)—should be accounted for under SFAS 143, assuming the other criteria of SFAS 143 are met.

The U.S. Securities and Exchange Commission (SEC) has addressed the distinction between environmental remediation liabilities arising from normal versus improper operations in comment letters to AngloGold Ashanti Limited and Chief Consolidated Mining Company. In a letter dated October 31, 2007, to AngloGold Ashanti Limited regarding the company's 2006 Form 20-F, the SEC objected to the company's failure to classify closure costs for restoration of site damage as an ARO:

> We note your disclosure that "The provision for restoration represents the closure cost for restoration of site damage", and that ". . . site damages are not costs associated with the construction or normal operations of long-lived assets and do not create future economic benefits." It appears you are stating that restoration costs are outside the scope of, and not accounted for under SFAS 143. However, in this scenario, the long-lived asset is a mine. Therefore, it would seem reasonable to presume that damages to the site would be part of the normal operations of the long-lived asset. As such, please clarify what types of costs are identified as restoration, and tell us why you believe the items reported within the provision for restoration costs are outside the scope of SFAS 143.[12]

AngloGold explained in its response that it capitalized under SFAS 143 and then expensed in the same period so-called "site damage costs" associated with current gold production because such costs (as opposed to costs arising from the establishment of the mine) did not give rise to a continuing benefit.[13]

In a letter dated February 26, 2007, to Chief Consolidated Mining Company regarding the company's 2005 Form 10-KSB, the SEC objected to the company's classification of a Superfund settlement as an ARO.

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[12] http://www.sec.gov/Archives/edgar/data/1067428/000000000007053384/filename1.pdf.

[13] http://www.sec.gov/Archives/edgar/data/1067428/000120561307000150/filename1.htm.

> We note your disclosure stating that you elected to adopt SFAS 143 during the year ended December 31, 2002 with respect to the EPA settlement obligation.[14] Paragraph 2 of SFAS 143 states that an obligation that results from the improper operation of an asset is not within the scope of SFAS 143. Please explain to us your basis for applying the guidance of SFAS 143 for purposes of recognizing this liability rather than applying the guidance of SFAS 5 and SOP 96-1.[15]

In response to the SEC's comment, Chief agreed that the guidance of SFAS 5 and SOP 96-1 should be followed.[16] The practical effect is that Chief was required to reverse its ARO accounting entries—which recognize the discounted fair value of the ARO liability and a corresponding capital asset layer—and recognize the full undiscounted estimated cost of the Superfund liability as a charge to earnings in the current period.

In conclusion, legal obligations associated with mine reclamation and restoration of site damage resulting from normal mining operations are AROs. Disruption of the land (and the obligation to restore it upon cessation of mining operations) is a predictable consequence of mining operations. An environmental remediation liability that results from normal mining operations and that is associated with the retirement of the mine should be accounted for as an ARO under SFAS 143.[17]

Although obligations relating to Superfund sites are presumed to have arisen from improper mining operations, contamination of environmental media is not necessarily indicative of improper mining operations. Some degree of contamination may be inherent in normal mining activities. For example, when the possibility of groundwater contamination is anticipated in developing a mine

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[14] In its 2005 Form 10-KSB, the company disclosed that in February 2005 it had confessed to a judgment with the EPA in the amount of $60 million relating to its portion of the liability for arsenic and lead contamination of soils at the Eureka Mills Superfund Site based on the company's ownership and mining operations on portions of the site. http://www.sec.gov/Archives/edgar/data/19913/000095013606009960/file1.htm#page11.

[15] http://www.sec.gov/Archives/edgar/data/19913/000000000007009956/filename1.pdf.

[16] http://www.sec.gov/Archives/edgar/data/19913/000095013607006269/filename1.htm #page10.

[17] For more discussion on "normal operations" and "associated with retirement," see *Deciphering and Applying Critical Terms Under FAS 143 and FIN 47 -- "Normal Operations" and "Associated with Asset Retirement,"* ABA Special Committee on Environmental Disclosure Newsletter, July 2006. http://www.abanet.org/environ/committees/environdisclosures/newsletter/jul06/envdiscl0706.pdf.

closure plan and systems are put in place to protect against it, the obligation to remediate contaminated groundwater—should those systems fail to perform as hoped and expected—would be properly characterized as an ARO at the time the contamination is discovered.

As a final note, SFAS 143 does not address the evolution of environmental practices over time. Many major mine sites have been mined in waves since the 1800s. What was considered normal operations 100 years ago might command jail time today. For pre-existing AROs, SFAS 143 looks back to the time the obligation was initially incurred.[17.1] Therefore, the determination of whether the ARO arose from normal operations presumably should consider the context of the time when the obligation first arose. Under this approach, cleanup and restoration obligations associated with historical activities that were considered normal at the time would be treated as AROs, even though such operations would be considered improper under modern standards.

[3] Inability to Reasonably Estimate AROs

SFAS 143 provides that "[a]n 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."[18] "If the fair value of an asset retirement obligation cannot be reasonably estimated, that fact and the reasons therefor shall be disclosed."[19]

Because AROs are measured using present value techniques, reasonable estimation of the fair value of an ARO is not possible in the absence of reasonable assumptions about the timing of settlement. FASB was aware of this possibility, but nonetheless decided that AROs with indeterminate settlement dates should be included within the scope of SFAS 143.

> The Board decided that asset retirement obligations with indeterminate settlement dates should be included within the scope of this

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[17.1] SFAS 143 ¶ 25.

[18] SFAS 143 ¶ 3 (emphasis added).

[19] SFAS 143 ¶ 22.

> Statement. Uncertainty about the timing of the settlement date does not change the fact that an entity has a legal obligation. The Board acknowledged that although there is an obligation, measurement of that obligation might not be possible if literally no information exists about the timing of settlement. However, some information about the timing of the settlement of a retirement obligation will become available as time goes by. The Board decided that an entity should measure and recognize the fair value of an obligation at the point in time when *some information* is available to develop various assumptions about the potential timing of cash flows.[20]

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.

Uncertainty about the timing and method of settling the existing obligation is information that should be reflected in the amounts recognized in the financial statements. In developing Statement 143, the Board concluded that not recognizing the liability and providing the Statement 5 disclosures for a contingent loss is not an adequate substitute for recognizing the fair value of the obligation.[21]

In FIN 47, *Accounting for Conditional Asset Retirement Obligations*, FASB addressed the timing of settlement issues associated with "conditional asset retirement obligations." A conditional ARO is "[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."[22] FIN 47 requires that conditional AROs be accounted for as AROs: "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."[23]

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[20] SFAS 143 ¶ B19 (emphasis added).

[21] SFAS 143 ¶¶ B17-18.

[22] FIN 47 ¶ 3.

[23] FIN 47 ¶ B17.

Appendix E of SFAS 157, *Fair Value Measurements*, amends certain portions of SFAS 143 relating to the measurement of AROs. As amended by SFAS 157, Paragraph A20 of SFAS 143 now states:

> Considerations in estimating [the fair value of an ARO] include developing and incorporating explicit assumptions, to the extent possible, about all of the following:
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> 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-based premium.
>
> *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.*[24]

The SEC has expressed concern about company representations of inability to estimate AROs in comment letters to Meridian Gold and Florida Rock Industries. In an August 10, 2007, letter to Meridian regarding the company's 2006 Form 40-F, the SEC commented on the company's accounting policy for AROs:

> We note that you recognize the fair value of a liability for an asset retirement obligation in [the period in] which you incur a legal obligation if a reasonable estimate of fair value can be made. Please tell us if there are circumstances within the scope of your operations where you believe an estimate cannot be made. If so, please describe these circumstances in detail. Please refer to FIN 47 and SFAS 143 for U.S. GAAP purposes.[25]

In a March 14, 2006, letter to Florida Rock Industries regarding ARO disclosures in the company's 2005 Form 10-K, the SEC took a more demanding approach:

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[24] SFAS 157 ¶ E23(f) (emphasis added).

[25] http://www.sec.gov/Archives/edgar/data/1016888/000000000007039733/filename1.pdf.

> 8. You disclosed that you cannot reasonably estimate the fair value of the asset retirement obligation for substantially all the concrete products segment and all the cement segment since you are unable to estimate the date the obligation would be incurred or the cost of the obligation. Please provide us with a general description of your various asset retirements obligations and a description of the laws, regulations, legal obligation or industry practice that lead you to believe that an obligation has been incurred for each of your asset retirement obligations.
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> 9. Please provide us with a description of relevant industry practice employed to settle each of your asset retirement obligations and the expected useful life of each asset for which you have an asset retirement obligation. Please note that uncertainty about performance does not defer the recognition of a retirement obligation since the uncertainty is factored into the measurement of the asset retirement liability through assignment of probabilities to cash flows based on the guidance in paragraph A14 of SFAS 143.
>
> Given that under FIN 47 you are required to disclose the reasons why you can not estimate the fair value of an asset retirement obligation, please describe to us in a comprehensive manner why you can not reasonably estimate the fair value of each of your asset retirement obligations given your experience in your industry. Be sure to include as part of this discussion a description of the data that you feel is necessary, that you presently do not have, in order to record the cost of your obligation.[26]

In conclusion, there is a strong presumption that the fair value of AROs, even those with indeterminate settlement dates, can be reasonably estimated. As originally adopted, SFAS 143 states that measurement of an ARO might not be possible if literally *no information* exists about the timing of settlement, but that an entity should be able to measure and recognize the fair value of an ARO when *some information* is available to develop assumptions about the potential timing of cash flows. SFAS 157, which amends certain portions of SFAS 143, states that it is expected that uncertainties about the amount and timing of future cash flows will not prevent the determination of a reasonable estimate of value. Finally, the SEC has shown concern about unsupported company representations of inability to reasonably estimate AROs.

[4] Financial Assurance and Financial Reporting

Mine operators may be required to provide financial assurance for their legal obligation to complete mine reclamation and envi-

[26] http://www.sec.gov/Archives/edgar/data/37651/000000000006016016/filename1.txt.

ronmental remediation activities. For example, the federal Bureau of Land Management (BLM) requires mine operators to provide financial assurance covering the estimated cost, as if BLM were to contract with a third party, to perform mine reclamation, including construction and maintenance costs for any treatment facilities necessary to meet federal and state environmental standards.[27] Such financial assurance may be provided in the form of a demonstration of financial ability, surety bonds, insurance policies, letters of credit, guarantees, or trust funds.[28]

Estimates for financial assurance may differ markedly from estimates of AROs. Although conceptually similar, estimates for financial assurance do not rely on the same cost elements and pricing assumptions used in determining fair value estimates of AROs. Likewise, assumptions used by management in developing estimates of mine closure costs for budgeting purposes often differ from those used in developing financial assurance and ARO estimates. SFAS 157 lists specific cost elements for measuring AROs, as noted above:[29]

Like AROs, financial assurance estimates typically consider the costs that a third party would incur in performing the tasks necessary to retire the mine. The notion of third party costs implicitly contemplates probabilistic analysis of uncertain future outcomes, overhead, equipment charges, profit margin, and inflation. The assumptions about these variables used in developing financial assurance estimates, however, may differ significantly from those used in developing ARO estimates. For example, labor inputs for financial assurance estimates often are based on prevailing wage rates to be paid on federally funded construction projects under the Davis-Bacon Act and its successor statutes,[30] and uncertainty about future outcomes often is resolved by assuming the highest cost within a reasonable range rather than the output of a statistical model. These conservative assumptions tend to increase fi-

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[27] 43 CFR § 3809.552. The estimate must include BLM's cost to administer the reclamation contract. 43 CFR § 3809.554.

[28] 43 CFR § 3809.555.

[29] See *supra* note 24 and accompanying text.

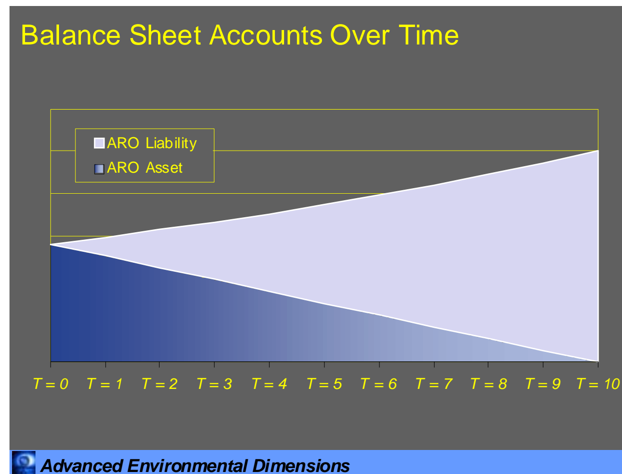
[30] 40 U.S.C. §§ 3141-3144, 3146, 3147.

nancial assurance estimates, as compared to ARO estimates and internal budgeting estimates.[31]

Financial assurance estimates generally do not consider discounting (time value of money) or market-risk premium. Consideration of market risk premium could be expected to increase ARO estimates by 5-10% over financial assurance estimates. Discounting for the time value of money over 30+ year timeframes would tend to have a much larger effect, reducing initial ARO estimates dramatically. The financial rule of sevens—an investment doubles in 10 years if it earns 7% and doubles in 7 years if it earns 10%—quickly demonstrates that the discounted present value of an ARO for a company with a 10% credit-adjusted risk free rate would double four times in 30 years. Consider a $1 million undiscounted financial assurance estimate for mine closure costs that will be expended beginning in 30 years for a company with a 10% credit-adjusted risk free rate. Assuming all other variables are identical, at inception, the ARO estimate is only $57,309—less than 6% of the financial assurance estimate.

As shown in the following figure, the ARO estimate will increase over time as the discounting is reversed through accretion.

Effect of Accretion and Depreciation on ARO Accounts



[31] Experts in mine reclamation and cost estimation report that financial assurance estimates generally exceed actual mine closure costs by 25-35%. *Interview with mine closure consultant*, May 31, 2008.

The following table lists various cost elements and pricing assumptions typically used in developing mine closure estimates for financial assurance, financial reporting, and internal budgeting purposes.

Comparison of Cost Elements in Management, Financial Assurance, and ARO Estimates

Cost Element	Financial Assurance Estimate	ARO Estimate	Management Estimate
Cost of work to be performed by third party	Contract labor and equipment at Davis-Bacon rates; assume highest cost within a reasonable range	Market labor and equipment rates; probabilistic analysis of future scenarios	Company labor and equipment rates; probabilistic analysis of future scenarios
Overhead costs	Agency oversight costs	Contractor overhead costs	Company overhead costs
Inflation	Yes	Yes	Yes
Discount rate	No	Yes	Yes
Market risk premium	No	Yes	No

Given that estimates for financial assurance often will differ significantly from fair value estimates for the related ARO, the question arises as to how these differing estimates should be reported. In SFAS 143, the FASB addressed the way in which financial assurance may affect a company's accounting for AROs.

> Providing assurance that an entity will be able to satisfy its asset retirement obligation does not satisfy or extinguish the related liability. 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. Costs associated with comply-

ing with funding or assurance provisions are accounted for separately from the asset retirement obligation.[32]

In some circumstances, an entity is legally required to provide assurance that it will be able to satisfy its asset retirement obligations. That assurance may be accomplished by demonstrating that the financial resources and financial condition of the entity are sufficient to assure that it can meet those obligations. Other commonly used 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 funds for satisfying the asset retirement obligations.[33]

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. Established generally accepted accounting principles require that the entity's financial statements reflect its obligations even if it has obtained surety bonds, letters of credit, or guarantees by others. However, as discussed in paragraph 16 of this Statement, the effects of those provisions should be considered in adjusting the risk-free interest rate for the effect of the entity's credit standing to arrive at the credit-adjusted risk-free rate.[34]

The option of prepaying an asset retirement obligation may exist; however, it would rarely, if ever, be exercised because prepayment would not relieve the entity of its liability for future changes in its asset retirement obligations. Obtaining insurance for asset retirement obligations is currently as rare as prepayment of those obligations. Because of the limited instances, if any, in which prepayment of asset retirement obligations is made or insurance is acquired, the Board decided to address neither topic. However, the Board noted that even if insurance was obtained, the liability would continue to exist.[35]

In evaluating what effect, if any, assets identified to satisfy asset retirement obligations should have on the accounting and reporting of liabilities, the Board considered two approaches that would have resulted in reporting less than the amount of the present liability for an asset retirement obligation. Under one approach, any assets dedicated

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[32] SFAS 143 ¶ 16.

[33] SFAS 143 ¶ B59.

[34] SFAS 143 ¶ B60.

[35] SFAS 143 ¶ B61.

to satisfy the asset retirement obligation would, for financial reporting purposes, be offset against the liability. Under the other approach, those dedicated assets could be viewed as an extinguishment of the liability in whole or in part.[36]

Paragraph 7 of APB Opinion No. 10, *Omnibus Opinion*—1966, and FASB Interpretation No. 39, *Offsetting of Amounts Related to Certain Contracts*, establish the general criteria for offsetting of amounts in the statement of financial position. Paragraph 50 of Interpretation 39 discusses offsetting of trust funds established for nuclear decommissioning, which is one of the asset retirement obligations within the scope of this Statement. Those trust funds cannot be offset because the right of offset is not enforceable at law and the payees for costs of asset retirement obligations generally have not been identified at the reporting date.[37]

Some have suggested that trust funds established to meet obligations for pensions and other postretirement benefits are similar to the trust funds established for nuclear decommissioning. In FASB Statements No. 87, *Employers' Accounting for Pensions*, and No. 106, *Employers' Accounting for Postretirement Benefits Other Than Pensions*, the Board provided specific requirements to allow offsetting of plan assets in trust funds established for pension benefits and for other postretirement benefits against the related liabilities of those plans. The Board noted that the offsetting provisions in Statements 87 and 106 are exceptions influenced, in part, by then-existing practice. In addition, the offsetting allowed in Statements 87 and 106 is one part of an accounting model that also allows for delayed recognition in financial statements of the changes in the values of the plan assets and liabilities. This Statement provides for immediate recognition of changes in estimated cash flows related to asset retirement obligations. Changes in certain assets dedicated to satisfy those obligations that are subject to the provisions of FASB Statement No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, would also be recognized immediately. The Board decided that it should not provide an exception to the general principle for offsetting in this Statement.[38]

FASB Statement No. 140, *Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities*, requires that a liability be derecognized if and only if either the debtor pays the creditor and is relieved of its obligation for the liability or the debtor is legally released from being the primary obligor under the liability. Therefore, a liability is not considered extinguished by an in-substance defeasance.[39]

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[36] SFAS 143 ¶ B62.

[37] SFAS 143 ¶ B63.

[38] SFAS 143 ¶ B64.

[39] SFAS 143 ¶ B65.

For users of financial statements, reconciliation of financial assurance and ARO estimates is difficult, if not impossible. At a minimum, one would need to know the amount of the undiscounted ARO estimate. Such disclosure, however, is not required. Although SFAS 143 requires disclosure of assets that are legally restricted to fund AROs,[40] during deliberations of FIN 47, FASB considered and rejected a proposal to require disclosure of ARO estimates on an undiscounted basis.[41]

In conclusion, the existence of financial assurance may affect the discount rate used to calculate the fair value of the related ARO, but it does not satisfy or extinguish the ARO. Assets dedicated to satisfy AROs do not negate the ARO. The company must report the ARO liability and separately disclose the fair value of assets that are legally restricted for such purposes.[42] Use of different cost elements and pricing assumptions often will result in financial assurance estimates for mine closure costs that significantly exceed corresponding ARO estimates. This will be especially apparent in the early years of mine operation when the effects of discounting are most pronounced. Absent disclosure on the effect of differences in key cost elements and pricing assumptions, including the impact of discounting, financial statements users will be unable to reconcile financial assurance and ARO estimates. Such disclosure is not required by applicable accounting standards, but could serve to assure investors and other stakeholders that the company is appropriately capitalized to fulfill its legal obligations.

§ 28A.04 Environmental Contingencies

[1] Introduction

Environmental liabilities—remediation obligations, violations of environmental laws, and litigation—historically have been accounted for as loss contingencies under SFAS 5. Other relevant authoritative accounting pronouncements include SOP 96-1, which applied the principles of SFAS 5 in the context of environmental remediation liabilities under CERCLA, RCRA, and cor-

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[40] SFAS 143 ¶ 22.

[41] Minutes of January 26, 2005, Board Meeting, http://www.fasb.org/board_meeting_minutes/01-26-05_interpst143.pdf.

[42] SFAS 143 ¶ 22.

responding state statutes,[42.1] and SEC Staff Accounting Bulletin No. 92 (SAB 92), which expressed certain views of the SEC staff on accounting and disclosures relating to loss contingencies.[43] Subsequent accounting standards, including SFAS 143 (Asset Retirement Obligations), FIN 45 (Guarantees and Indemnifications), and SFAS 141R (Business Combinations), have cut back on SFAS 5's application to environmental liabilities. However, the vast majority of environmental liabilities continue to be governed by SFAS 5.

SFAS 5 defines a *contingency* as an "existing condition, situation, or set of circumstances involving uncertainty as to possible gain [gain contingency] or loss [loss contingency] to an enterprise that will ultimately be resolved when one or more future events occur or fail to occur."[44] In the case of a gain contingency, resolution of the uncertainty may confirm the acquisition of an asset or the reduction of a liability. In the case of a loss contingency, resolution of the uncertainty may confirm the loss or impairment of an asset or the incurrence of a liability.

SFAS 5 requires accrual of a liability for the estimated loss from a loss contingency if both of the following conditions are met: "a. Information available prior to issuance of the financial statements indicates that it is probable that an asset had been impaired or a liability had been incurred at the date of the financial statements. . . . [and] b. The amount of loss can be reasonably estimated."[45] With respect to unasserted claims, the entity must determine the likelihood that a claim will be asserted, and the likelihood of an unfavorable outcome. If the entity determines that assertion of a claim is not probable, no accrual or disclosure is required. If the entity determines that assertion is probable, then a second judgment must be made as to the likelihood of an unfavorable outcome. If an unfavorable outcome is probable and the

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[42.1] For a discussion of accounting considerations associated with polluting activities in non-U.S. jurisdictions that lack comparable environmental remediation laws, see § 28A.05 *infra*.

[43] 58 Fed. Reg. 32843 (June 14, 1993).

[44] SFAS 5 ¶ 1.

[45] SFAS 5 ¶ 8.

amount of loss can be reasonably estimated, accrual of a loss is required.[46]

A loss is "reasonably estimable" if available information indicates that the estimated amount of loss is within a range of amounts.[47] In other words, a loss is reasonably estimable if both a high end and a low end of the possible range of outcomes can be determined.

For purposes of the SFAS 5 probability criterion, *probable* means the "future event or events are likely to occur."[48] In practice, however, liabilities are not recognized under the SFAS 5 probability criterion "unless there is a high likelihood of a future outflow of resources."[49]

Once an entity has determined that it is probable that a liability has been incurred and the loss can be reasonably estimated, the entity should develop a best estimate of the liability based on available information. When some amount within the range of possible outcomes appears at the time to be a better estimate than any other amount within the range (*most likely value*), that best estimate amount should be accrued. When no amount within the range is a better estimate than any other amount, however, the minimum amount in the range (*known* minimum) should be accrued.[50]

Estimates generally are measured in current dollars (as if all of the work is to be performed today). Cost estimates may be discounted to reflect the time value of money only when the amount and timing of future payments are fixed and determinable. Discounting is not allowed when the entity cannot reasonably estimate the future impact of inflation and other cost factors because of uncertainty about the timing of expenditures.[51]

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[46] SFAS 5 ¶ 38.

[47] FASB Interpretation No. 14 (FIN 14) ¶ 2.

[48] SFAS 5 ¶ 3.

[49] SFAS 141R ¶ B226 (effective for annual reporting periods beginning on or after December 15, 2008).

[50] FIN 14 ¶ 3.

[51] SOP 96-1 ¶ 6.13.

Early in the remediation process, particular components of the overall liability may not be reasonably estimable at all. According to SOP 96-1, this fact should not preclude the recognition of a liability. Instead, the components of the liability that can be reasonably estimated should be viewed as a surrogate for the known minimum value in the range of the overall liability.[52] For example, a sole potentially responsible party (PRP) that has confirmed that it sent waste to a Superfund site and agrees to perform a remedial investigation and feasibility study (RI/FS) may know that it will incur costs related to the RI/FS. The PRP, although aware that total costs associated with the site will be greater than the cost of the RI/FS, may be unable to reasonably estimate the overall liability. The inability to quantify the total costs of the overall liability should not preclude recognition of the estimated cost of the RI/FS. In this situation, SOP 96-1 provides that a liability for the best estimate (or, if no such estimate is available, the known minimum value) of the cost of the RI/FS, and for any other remediation components that can be reasonably estimated, should be recognized as a liability.

[2] Historical Accounting for Contingencies Comes Under Attack

The recognition and measurement principles in SFAS 5 and SOP 96-1 favor certainty over projections. As a result, they tend to defer recognition and understate the value of environmental liabilities, which frequently are subject to high levels of uncertainty. SFAS 5 fails to fully account for environmental liabilities when there is not (yet) a high likelihood of future outflow of resources or when the amount of the potential loss is highly uncertain. Examples include:

- unasserted claims where liability more than likely exists but assertion of claim is not probable;
- confirmed contamination, but no pending enforcement;
- operations are in violation of pollution control laws;
- unasserted contract obligations/violations;
- environmental indemnities and guaranties;

[52] SOP 96-1 ¶ 5.11.

- breach of representation, warranty, or covenant; and
- violations of agreed orders with stipulated penalties.

Users of financial statements have criticized SFAS 5 and SOP 96-1 for failing to provide timely and transparent information about environmental and other contingencies. Notably, the FASB has moved away from the SFAS 5 recognition and measurement principles in every new accounting standard relevant to environmental liabilities issued since SOP 96-1, including SFAS 143, FIN 45, FIN 47, SFAS 144, and SFAS 141R. In place of the SFAS 5 recognition and measurement principles, FASB has adopted the "fair value measurement" principle. [52.1]

In 2005, the International Accounting Standard Board (IASB) issued a proposed revision of International Accounting Standard (IAS) No. 37, the IASB's equivalent of SFAS 5.[53] The IAS 37 Exposure Draft (IAS 37ED) would replace the SFAS 5 recognition and measurement model with fair value for all contingencies.[54] Recently, FASB announced a new project to comprehensively reconsider SFAS 5.[55] In light of the ongoing convergence initiative between the IASB and the FASB[56] and the movement towards fair value, it seems likely that the revised SFAS 5 and IAS 37 standards, when completed, will both adopt fair value measurement for all contingencies.

[52.1] See SFAS 143, Accounting for Asset Retirement Obligations (2001); SFAS 144, Accounting for the Impairment or Disposal of Long-Lived Assets (2001); FIN 45, Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others (2001); FIN 47, Accounting for Conditional Asset Retirement Obligations: An Interpretation of FASB Statement No. 143 (2005); and SFAS 141R, Business Combinations (2007).

[53] Exposure Draft of Proposed Amendments to IAS 37 Provisions, Contingent Liabilities and Contingent Assets, and IAS 19 Employee Benefits (June 2005) (IAS 37ED), http://www.iasb.org/NR/rdonlyres/1CFBC1A8-50F1-4BF3-9A33-579F849560C8/0/EDAmendsto IAS37.pdf.

[54] "An entity shall measure a non-financial liability at the amount that it would rationally pay to settle the present obligation or to transfer it to a third party on the balance sheet date." IAS 37ED ¶ 29.

[55] Minutes of the September 6, 2007, Board Meeting—Accounting for Contingencies, http://www.fasb.org/board_meeting_minutes/09-06-07_contingencies.pdf.

[56] Memorandum of Understanding between the FASB and the IASB, 27 February 2006, http://www.fasb.org/intl/mou_02-27-06.pdf.

In summary, users of financial statements have criticized SFAS 5 and SOP 96-1 for failing to provide timely and transparent information about environmental and other contingencies. FASB has responded to this criticism by expanding the application of fair value measurement and is now in the process of revising SFAS 5. At this time, it seems likely that FASB eventually will replace the SFAS 5 recognition and measurement model with fair value measurement.

[3] New Standards for Contingencies Acquired in Mergers and Acquisitions

New standards for business combinations issued by the FASB (SFAS 141R) and the IASB (IFRS 3) abandon the historical standard for recognizing and measuring contingent liabilities in favor of fair value measurement. Instead of booking only amounts that are nearly certain to be spent to settle a contingent liability, acquiring companies will soon be required to report the market value of the obligation, uncertainties and all.

Beginning in 2009, public and private companies must recognize liabilities for all material contract-related contingencies (e.g., environmental indemnities) previously assumed in a merger or business acquisition. Acquirers must recognize liabilities for material non-contractual contingencies (e.g., obligations arising under environmental remediation laws) if it is "more likely than not" that a liability exists as of the acquisition date. All recognized liabilities for contingencies must be recorded at their acquisition-date fair value.

The fair value of a liability is the price that would be paid to transfer the liability in an orderly transaction between market participants at the measurement date (exit price).[57] A quoted price for the identical liability in an active market is the best evidence of fair value.[58] If an active market does not exist, companies must estimate the exit price based on the assumptions that mar-

[57] SFAS 157 ¶ 5.

[58] SFAS 157 ¶¶ 22 and 24.

ket participants would use in pricing the liability, including probabilistic analysis, risk premium, and profit margin.[59]

The recognition criteria in SFAS 141R—recognition of all contractual contingencies and recognition of non-contractual contingencies if it is "more likely than not" that a liability exists as of the acquisition date—are fundamentally different from the recognition criteria in SFAS 5. Under SFAS 5, a liability is recognized if it is both (1) probable that a liability has been incurred, and (2) the amount of the loss is reasonably estimable.[60] In practice, liabilities are not recognized under SFAS 5 "unless there is a high likelihood of a future outflow of resources."[61] Thus, under SFAS 5, recognition depends on the likelihood of *loss* rather than the likelihood of *liability*. By contrast, under SFAS 141R, recognition depends on the likelihood of *liability* rather than *loss*.

Element uncertainty refers to uncertainty about whether and when a loss contingency gives rise to a liability. Element uncertainty—whether a liability exists—is distinct from uncertainty about the value of a liability. FASB determined that contingencies related to contracts (*contractual contingencies*) involved limited element uncertainty. For all other contingencies (*noncontractual contingencies*), FASB imposed a probability threshold to address element uncertainty.

> The FASB concluded that most cases of significant uncertainty about whether a potential asset or liability arising from a contingency meets the pertinent definition (element uncertainty) are likely to involve noncontractual contingencies. To help preparers and their auditors deal with element uncertainty, the FASB decided to add a requirement for the acquirer to assess whether it is **more likely than not** that the contingency gives rise to an asset or a liability as defined in Concepts Statement 6. For an asset arising from a contingency, applying that criterion focuses on whether it is more likely than not that the acquirer has obtained control of a future economic benefit as a result of a past transaction or other event. For a liability, the more-likely-than-not criterion focuses on whether the acquirer has a present obligation to sacrifice future economic benefits as a result of a past transaction or other event. If that criterion is met at the acquisi-

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[59] SFAS 157 ¶ B2. See also proposed FASB Staff Position (FSP) FAS 157-c regarding clarification of SFAS 157 on the measurement of liabilities, http://www.fasb.org/fasb_ staff_ positions/prop_fsp_fas157-c.pdf.

[60] SFAS 5 ¶ 8.

[61] SFAS 141R ¶ B226.

> tion date, the acquirer recognizes the asset or liability, measured at its acquisition-date fair value, as part of the accounting for the business combination. If that criterion is not met at the acquisition date, the acquirer accounts for the noncontractual contingency in accordance with other GAAP, including Statement 5, as appropriate. The FASB concluded that adding the more-likely-than-not criterion would permit acquirers to focus their efforts on the more readily identifiable contingencies of acquirees, thereby avoiding spending disproportionate amounts of time searching for contingencies that, even if identified, would have less significant effects.[62]

The FASB provided additional clarification to differentiate between the likelihood of *liability* and the likelihood of *loss* when addressing element uncertainty under SFAS 141R.

> Paragraph 24 establishes a *more-likely-than-not* criterion to determine whether to recognize as of the acquisition date an asset or a liability arising from a noncontractual contingency. If that criterion is not met as of the acquisition date, the noncontractual contingency is recognized and measured at a later date in accordance with other GAAP, including FASB Statement No. 5, *Accounting for Contingencies*, as appropriate.
>
> This Statement uses *more likely than not* for a purpose that differs from the purpose of the probability notion in the definition of assets and liabilities in FASB Concepts Statement No. 6, *Elements of Financial Statements*. For example, Concepts Statement 6 defines liabilities as:
>
> > 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.
> >
> > [Paragraph 35; footnote references omitted.]
>
> Thus, *probable* applies to the future sacrifice of economic benefits embodied in the liability; it does not apply directly to whether the entity has a *present obligation*. A footnote to paragraph 35 of Concepts Statement 6 explains that *probable* is used in the definition "to acknowledge that business and other economic activities occur in an environment characterized by uncertainty in which few outcomes are certain" (paragraph 35, footnote 21). *In contrast, the more-likely-than-not criterion in this Statement applies to whether the acquirer has incurred an obligation to pay if a specified event—the contingency—occurs. The criterion asks: Is it more likely than not that the entity has a present obligation. If that threshold is met, uncertainties about the amount and timing of the future cash flows—the future sacrifice—embodied in a liability arising from a contingency are incor-*

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[62] SFAS 141R ¶ B271.

> *porated in its fair value measure*. The same analysis applies equally to an asset arising from a contingency.[63]

SFAS 141R contains the following example of a noncontractual contingency:

> In December 20X8, a former employee filed suit against TC alleging violation of age discrimination laws. On June 30, 20X9, AC purchases all of TC's outstanding equity shares for cash. As of the acquisition date, discovery proceedings related to the discrimination lawsuit were underway but were not yet complete. TC's management asserts that its hiring and promotion practices complied with all applicable laws and regulations.
>
> AC would recognize a liability as of the acquisition date, measured at its acquisition-date fair value, if it concludes based on the facts known as of that date that it is more likely than not that TC had violated the age discrimination laws. In making that assessment, AC would consider all relevant facts and circumstances, such as the results of discovery proceedings to date, advice from its lawyers about whether TC would be found liable based on the facts known at that date, and any other relevant information gathered through due diligence or other procedures. However, neither a past practice of settling similar suits out of court nor consideration of an out-of-court settlement of the lawsuit against TC, in and of itself, provides a conclusive basis for recognizing a liability. Rather, AC would consider such information together with other evidence in determining whether it is more likely than not that TC has violated the applicable laws or regulations and is likely to be found liable under the lawsuit. The acquisition-date fair value measure of the recognized liability, if any, would reflect possible outcomes of the litigation, including possible out-of-court settlement.[64]

The following hypothetical examples describe how fair value measurement may affect environmental contingencies in M&A transactions.

Example 1: Buyer plans to purchase the stock of Seller. Seller owns an industrial facility with soil and groundwater contamination resulting from historical releases of chlorinated solvents (TCE) caused by Seller. Seller estimates that a thorough site investigation will cost $250,000. Depending on the extent of contamination, cleanup costs are expected to range between $2 million and $10 million. In accordance with applicable accounting standards, Seller has used the reasonably estimable cost of the investigation as a surrogate for the known minimum value of the total

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[63] SFAS 141R ¶¶ A62-A63 (emphasis added).

[64] SFAS 141R ¶¶ A64 & A65.

cleanup and booked a contingent liability in the amount of $250,000. Buyer estimates that it would charge $5 million to assume cleanup liability for the facility in a stand-alone transaction. This estimate is comparable to a quote obtained from an environmental liability buy-out company. Upon acquisition of Seller, instead of recording a $250,000 liability, Buyer records a contingent liability in the amount of $5 million representing its estimate of the acquisition-date fair value of the cleanup liability.

Example 2: Same facts as above, except that preliminary investigation indicates that TCE in groundwater has migrated offsite under a residential neighborhood at concentrations posing a risk of vapor intrusion. As of the acquisition date, Seller has not notified the government or the adjacent property owners and no claims have been asserted against Seller. In accordance with applicable accounting standards, Seller has not recorded a contingent liability for unasserted claims for property damage or bodily injury because Seller does not consider litigation to be probable (highly likely) and it believes the amount of the potential loss cannot be reasonably estimated. Based on existing information, Buyer's legal counsel concludes it is more likely than not that Seller is liable for trespass and related property damages (but not for bodily injury). Considering possible outcomes of potential litigation, including possible out-of-court settlement, Buyer's counsel estimates the reasonable worst-case outcome for property damage claims is a loss of $15 million. Buyer obtains three quotes for 10-year environmental insurance policies with limits of $15 million that would respond in the event of lawsuits by offsite impacted property owners arising from preexisting pollution conditions (bodily injury and cleanup cost coverage is excluded). Upon acquisition of Seller, Buyer records a contingent liability in the amount of $1.5 million—the average of the three insurance premium quotes—as its estimate of the acquisition-date fair value of Seller's offsite property damage liability.

Example 3: Same facts as above, except that Seller sold the facility in 2001 and gave the current owner an unlimited contractual indemnity for third-party claims for cleanup costs, property damages, or bodily injury arising from preexisting pollution conditions. At the time of the acquisition, no third-party claims have been asserted and the current owner has made no demand

against Seller under the indemnity. In accordance with applicable accounting standards, Seller has not recorded a contingent liability for its contractual indemnity obligation because Seller does not consider a claim to be probable (highly likely) and it believes the amount of the potential loss cannot be reasonably estimated. Based on available information and experience with vapor intrusion litigation in other parts of the country, Buyer's counsel estimates the reasonable worst-case outcome for bodily injury and property damage claims is a loss of $100 million. Buyer obtains a quote in the amount of $10 million for a 10-year, $100 million environmental insurance policy that would respond in the event of claims for bodily injury or property damage arising from preexisting pollution conditions (cleanup cost coverage is excluded). Only one carrier was willing to underwrite the risk. Upon acquisition of Seller, Buyer records a contingent liability in the amount of $15 million—$5 million for cleanup (see *Example 1* above) plus the insurance premium quote for bodily injury and property damage coverage—as its estimate of the acquisition-date fair value of Seller's contractual indemnity obligation.

The new accounting standards will not affect acquirers' economic exposure to contingent losses. In other words, the accounting standards do not create liability where none existed before. However, as these examples illustrate, fair value measurement of environmental liabilities in business combinations can be expected to result in more booked liabilities and higher, sometimes much higher, estimates.

SFAS 141R also requires companies to provide more disclosures about acquired contingencies. For assets and liabilities arising from contingencies, companies must disclose:

> (1) The amounts recognized at the acquisition date or an explanation of why no amount was recognized (paragraph 24)
>
> (2) The nature of recognized and unrecognized contingencies
>
> (3) An estimate of the range of outcomes (undiscounted) for contingencies (recognized and unrecognized) or, if a range cannot be estimated, that fact and the reasons why a range cannot be estimated.[65]
>
> An acquirer may aggregate disclosures for assets and liabilities arising from contingencies that are similar in nature.

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[65] SFAS 141R ¶ 68(j).

SFAS 141R changes prior practice for recording measurement period adjustments. Instead of recognizing changes to provisional amounts prospectively as a change in estimate, acquirers must revise comparative information for prior periods. This requirement will increase the pressure on due diligence to enable timely and accurate market-based estimates and thereby minimize the need to revise prior-period financial statements in subsequent filings.

In summary, new U.S. and international accounting standards will dramatically affect how environmental and other contingencies are recognized and measured in business mergers and acquisitions. Many environmental contingencies that are not considered probable and reasonably estimable under traditional practice will be subject to recognition. Moreover, market-based valuations often will far exceed the known minimum value estimates now on the books of sellers. The result will be more recorded liabilities at higher values. Adding to the substantial challenge of establishing new due diligence and valuation procedures to generate market-based estimates, acquirers and their attorneys, accountants, and consultants will be under intense pressure to get it right the first time in order to avoid future restatements.

[4] New Disclosure Requirements for Contingencies

On June 5, 2008, FASB released Proposed Statement of Financial Accounting Standards, *Disclosure of Certain Loss Contingencies,* which amends and expands the disclosure provisions in SFAS 5 and SFAS 141R.[66] The proposed Statement would be effective for fiscal years ending after December 15, 2008, and interim and annual periods in subsequent fiscal years.

FASB believes the expanded disclosure provisions are necessary because:

> Investors and other users of financial information have expressed concerns that disclosures about loss contingencies under the existing guidance in FASB Statement No. 5, *Accounting for Contingencies*, do not provide adequate information to assist users of financial state-

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[66] Proposed Statement of Financial Accounting Standards, *Disclosure of Certain Loss Contingencies: an amendment of FASB Statements No. 5 and 141(R)*, http://www.fasb.org/draft/ed_contingencies.pdf.

> ments in assessing the likelihood, timing, and amount of future cash flows associated with loss contingencies.[66.1]

The proposed Statement would require that all loss contingencies be disclosed unless certain narrow criteria are met. If management determines that the likelihood of a loss is remote, disclosure would not be required. However, any contingency, regardless of the likelihood of a loss, with the potential to result in a near-term (within one year) and severe impact on the financial position, cash flows, or results of operations of an entity would be subject to disclosure.

The proposed Statement would require companies to disclose significantly more information about contingencies than currently required, including:

- Quantitative information about the entity's exposure to loss from the contingency, including:
  - the amount of the claim or assessment (including damages, such as treble or punitive damages), if applicable;
  - if there is no claim or assessment amount, the entity's best estimate of the maximum exposure to loss.
- Qualitative information, including, at a minimum, a description of the contingency, including how it arose, its legal or contractual basis, its current status, and the anticipated timing of its resolution.
- A description of the factors that are likely to affect the ultimate outcome of the contingency along with their potential effect on the outcome.
- The entity's qualitative assessment of the most likely outcome of the contingency.
- Significant assumptions used in estimating amounts and predicting outcomes.
- A qualitative and quantitative description of insurance or indemnification arrangements that could lead to a recovery of some or all of the possible loss, including any caps, limitations, or deductibles that could affect the amount of recovery.

[66.1] *Id*. at Summary.

Disclosures can be aggregated by the nature of the loss contingency (for example, environmental matters). Thus, companies would not be required to separately disclose information on each environmental contingency.

The proposed Statement would require reconciliation, in tabular format, of recognized loss contingencies at the beginning and end of the accounting period. The reconciliation must address, at a minimum:

- increases for loss contingencies recognized during the period;
- increases resulting from changes in estimates of the amounts of loss contingencies previously recognized;
- decreases resulting from changes in estimates or derecognition of loss contingencies previously recognized;
- decreases resulting from cash payments (or other forms of settlement) for loss contingencies; and
- recoveries from insurance or indemnification arrangements.[66.2]

The proposed Statement provides an exemption to disclosure about certain contingencies, such as pending or threatened litigation, where disclosure could detrimentally affect the outcome of the contingency itself. In those circumstances, the company would be allowed to aggregate disclosures or, in rare instances, forgo certain prejudicial disclosures altogether.

In summary, FASB is in the process of expanding the disclosure requirements for contingencies under SFAS 5 and SFAS 141R. As proposed, quantitative and qualitative disclosures for contingencies, including remediation liabilities and environmental litigation, will be expanded significantly beyond current requirements.

§ 28A.05 Constructive Obligations

In an effort to respond to growing social and environmental concerns and to protect their brands, mining companies have adopted voluntary codes of conduct to demonstrate their corporate social responsibility (CSR).[67] Specific environmental commitments can

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[66.2] *Id.* ¶¶ 8 & 9.

[67] Examples include the International Council on Mining and Metals (ICMM) Sustainable Development Framework, http://www.goodpracticemining.org/documents/jon/

also be found in company annual reports and published sustainability reports.

With respect to environmental protection, the International Council on Mining and Metals (ICMM)[68] Sustainable Development Framework, for example, states that its members will, among other things,

(1) "Seek continual improvement of our environmental performance."

(2) "Implement good practice and innovate to improve social, environmental and economic performance while enhancing shareholder value."

(3) "Consult with interested and affected parties in the identification, assessment and management of all significant social, health, safety, environmental and economic impacts associated with our activities."

(4) "Assess the positive and negative, the direct and indirect, and the cumulative environmental impacts of new projects—from exploration through closure."

(5) "Implement an environmental management system focused on continual improvement to review, prevent, mitigate or ameliorate adverse environmental impacts."

(6) "Rehabilitate land disturbed or occupied by operations in accordance with appropriate post-mining land uses."

(7) "Provide for safe storage and disposal of residual wastes and process residues."

(8) "Design and plan all operations so that adequate resources are available to meet the closure requirements of all operations."

(9) "Report on our economic, social and environmental performance and contribution to sustainable development."

ICMM_SD_Principles.pdf; the Extractive Industries Transparency Initiative, http://eitransparency.org/; the Voluntary Principles on Security & Human Rights, http://www.voluntaryprinciples.org/; and the ICMM Position Statement: Mining and Protected Areas, http://www.icmm.com/document/43.

[68] ICMM, http://www.icmm.com, is made up of 18 of the largest mining and metals companies, and 30 association members. All company members have committed to implement the ICMM Sustainable Development Framework and a number of supporting position statements.

For accounting purposes, the question is whether voluntary commitments of this nature meet the accounting definition of a liability. First, which of these commitments would constitute an accounting liability if mandated by law? Second, can voluntary commitments of this nature give rise to "constructive obligations" that constitute an accounting liability, in the absence of laws or legally binding contracts mandating such measures?

The analysis begins with an examination of the accounting definition of *liability* in FASB Statement of Financial Accounting Concepts No. 6 (SFAC 6), *Elements of Financial Statements*. SFAC 6 defines *liabilities* as 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.[69]

The requirement that a liability arise as a result of past transactions or events eliminates many of the ICMM Sustainable Development Framework commitments. Obligations linked to a company's ongoing operations—obligations that would disappear or never arise if the company ceased mining operations—are not liabilities. Thus, for example, of the commitments listed above, even if they are legally mandated, items (1)-(5) and (8)-(9) are not liabilities because they do not represent obligations arising from past acts.

Conversely, legal obligations to dispose of residual wastes, remediate contamination, and rehabilitate land (items (6) & (7) above) do arise from past acts. The past acts are the production of wastes, the release of hazardous substances to the environment, and the disturbance of land. These obligations continue even after mining operations have ceased. The remainder of the analysis considers whether voluntary commitments to dispose of residual wastes, remediate contamination, and rehabilitate land give rise to constructive obligations that constitute an accounting liability,

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[69] SFAC 6, ¶ 35. The FASB and IASB currently are in the process of redefining the term *liability* as "a present economic burden for which the entity has a present obligation. Existing definitions of a liability are to be converged by focusing on defining a liability as an economic obligation, rather than as a probable future sacrifice. FASB, Project Update: Co*nceptual Framework—Phase B: Elements and Recognition*, http://www.fasb.org/project/cf_phase-b.shtml.

in the absence of laws or legally binding contracts mandating such measures.

As used in the definition of *liability*, the term *obligations* is used with its usual general meaning to refer to duties imposed legally or socially, to that which one is bound to do by contract, promise, moral responsibility, and the like. It includes equitable and constructive obligations as well as legal obligations.[70] *Legal obligations* are obligations 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.[71] Although most liabilities rest generally on a foundation of legal rights and duties, existence of a legally enforceable claim is not a prerequisite for an obligation to qualify as a liability if for other reasons the entity has the duty or responsibility to pay cash, to transfer other assets, or to provide services to another entity.[72]

SFAC 6 states that although most liabilities stem from legally enforceable obligations, some liabilities rest on equitable or constructive obligations. Although commonly paid in the same way as legally binding contracts, liabilities stemming from equitable or constructive obligations lack the legal sanction that characterizes most liabilities and may be binding primarily because of social or moral sanctions or custom.

> An equitable obligation stems from ethical or moral constraints rather than from rules of common or statute law, that is, from a duty to another entity to do that which an ordinary conscience and sense of justice would deem fair, just, and right—to do what one ought to do rather than what one is legally required to do. For example, a business enterprise may have an equitable obligation to complete and deliver a product to a customer that has no other source of supply even though its failure to deliver would legally require only return of the customer's deposit. A constructive obligation is created, inferred, or construed from the facts in a particular situation rather than contracted by agreement with another entity or imposed by government. For example, an entity may create a constructive obligation to employees for vacation pay or year-end bonuses by paying them every year even though it is not contractually bound to do so and has not announced a policy to do so. The line between equitable or construc-

[70] SFAC 6, ¶ 35, note 21.

[71] SFAC 6, ¶ 35, note 22.

[72] SFAC 6, ¶ 36.

> tive obligations and obligations that are enforceable in courts of law is not always clear, and the line between equitable or constructive obligations and no obligations may often be even more troublesome because to determine whether an entity is actually bound by an obligation to a third party in the absence of legal enforceability is often extremely difficult. Thus, the concepts of equitable and constructive obligations must be applied with great care. To interpret equitable and constructive obligations too narrowly will tend to exclude significant actual obligations of an entity, while to interpret them too broadly will effectively nullify the definition by including items that lack an essential characteristic of liabilities.[73]

SFAS 143 also recognizes equitable obligations. As used in SFAS 143, 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 by legal construction of a contract under the doctrine of promissory estoppel."[74] SFAS 143 quotes *Black's Law Dictionary*, which defines promissory estoppel as: "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."[75]

SFAS 143 notes that the determination of whether an equitable obligation exists may require careful analysis and judgment.

> 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.[76]

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[73] SFAC 6, ¶ 40.

[74] SFAS 143 ¶ 2.

[75] SFAS 143 ¶ 2, note 3.

[76] SFAS 143 ¶ A3.

> For example, assume a company 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 company 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 company commit to dismantling the plant upon retirement, the company's chief executive officer holds a press conference at city hall to announce that the company will demolish the building and restore the underlying land when the company ceases operations at the plant. Although no law, statute, ordinance, or written contract exists requiring the company to perform any demolition or restoration activities, the promise made by the company's chief executive officer may have created a legal obligation under the doctrine of promissory estoppel. In that circumstance, the company's management (and legal counsel, if necessary) would have to evaluate the particular facts and circumstances to determine whether a legal obligation exists.[77]

International Financial Reporting Standards (IFRSs) handle constructive obligations much the same as U.S. standards. The Exposure Draft for International Accounting Standard No. 37 (IAS 37ED), *Provisions, Contingent Liabilities and Contingent Assets*,[78] defines a *constructive obligation* as:

> a present obligation that arises from an entity's past actions when:
>
> (a) by an established pattern of past practice, published policies or a sufficiently specific current statement, the entity has indicated to other parties that it will accept particular responsibilities; and
>
> (b) as a result, the entity has created a valid expectation in those parties that they can reasonably rely on it to discharge those responsibilities.[79]

The IAS 37ED notes that in the absence of legal enforceability, particular care is required in determining whether an entity has a present obligation. In the case of a constructive obligation, this will be the case only if:

> (a) the entity has indicated to other parties that it will accept particular responsibilities;

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[77] SFAS 143 ¶ A4.

[78] IAS 37 is the IFRS equivalent of SFAS 5. The Exposure Draft of proposed amendments to IAS 37 (IAS 37ED) issued in June 2005 reflects the latest published viewpoints of the IASB on contingencies.

[79] IAS 37ED ¶ 10.

> (b) the other parties can reasonably expect the entity to perform those responsibilities; and
>
> (c) the other parties will either benefit from the entity's performance or suffer harm from its non-performance.[80]

Of particular relevance to environmental obligations, the IAS 37ED contains the following example:

> Example 3B: Contaminated land and constructive obligation
>
> An entity in the oil industry causes contamination and operates in a country in which there is no environmental legislation. However, the entity has a widely published environmental policy in which it undertakes to clean up all contamination that it causes. The entity has a record of honoring this published policy.
>
> **Present obligation as a result of a past event**—The past event is the contamination of the land, which gives rise to a present constructive obligation. This is because:
>
> - by publishing its environmental policy the entity has publicly indicated that it will accept the responsibility to clean up its contamination.
> - by publishing that policy and honouring it in the past, other parties can reasonably rely on the entity to clean up its contamination.
> - other parties will suffer harm if the entity does not clean up its contamination.
>
> **Conclusion** – A non-financial liability is recognized for the clean-up obligation.[81]

A 2004 World Bank study of company codes of conduct found that the published policies of several mining companies regarding mine closure and reclamation echo the ICMM's and World Bank's emphasis on the need for effectively planning for mine closures even before the initial mining operation begins.

> Newmont states that "[c]onsideration of closure and reclamation must occur during the design of a project and must be included as an integral component during the life of the operation." Barrick Gold notes that "[m]ine closure is recognized to be an important aspect of the life cycle of every mine. For this reason, mine closure is included in project planning and budgeting." Placer Dome provides that "[c]onsideration of closure requirements now begins during exploration and is dominant throughout the mine cycle."

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[80] IAS 37ED ¶ 15.

[81] IAS 37ED, Example 3B.

> Companies also note that proper planning throughout a mine's operational phase can significantly reduce mine closure costs. Rio Tinto states that "[h]igh standards of environmental management during mine life reduce closure costs and hasten rehabilitation."
>
> A number of company policies specify the range of issues that must be considered in mine rehabilitation. Of particular note, Barrick Gold's mine closure plans include "planning for workforce reduction, community effects, demolition, final reclamation, post-mining land use, and monitoring." Its site restoration efforts include "contouring the land, replacing topsoil, and seeding to re-establish the native flora, stable landforms, and post-mining land use"—all recommended by the Handbook. Barrick Gold also conducts ongoing water monitoring and treatment, if necessary, to manage the impacts of the mine site on water supplies and systems.
>
> The mine closure plans of WMC Resources include efforts to conduct "trials and research to ensure successful rehabilitation; [m]inimise the environmental impacts of overburden and waste rock; [e]stablish a stable post-operating landscape that is compatible with surrounding landforms; [and d]o progressive rehabilitation to ensure minimum requirements at closure."[81.1]

Proper mine closure is a critical issue for mining companies. Mine sites must be properly shut down and managed to prevent lasting environmental, social, and economic harm to the surrounding region.

> As WMC Resources [now BHP Billiton] notes "[t]he state in which we close our operations is often the only way in which others will remember how responsible we are."
>
> The guidelines in the World Bank/IFC Handbook regarding both Base Metal and Iron Ore Mining, and Coal Mining and Production, provide that before mining operations even begin "a mine closure and reclamation plan must be prepared." Such plans should address "reclamation of tailings deposits, waste rock deposits, any open pit areas, sedimentation basins, and abandoned mine, mill, and camp sites." The Handbook lays out a number of objectives and guidelines for mine closure, including: (1) returning "the land to conditions capable of supporting prior land use, equivalent uses, or other acceptable uses;" (2) eliminating "significant adverse effects on adjacent water resources;" (3) using "waste water for backfill and topsoil (or other acceptable materials) for reclamation to the extent feasible;" (4) contouring slopes "to minimize erosion and runoff;" (5) planting "native species of vegetation and of other species that are environmentally acceptable, to prevent erosion and to encourage self-sustaining development of a

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[81.1] Smith, G. "Company Codes of Conduct and International Standards: An Analytical Comparison," The World Bank Group, Part II, March 2004, § 3.4.8.

> productive ecosystem on the reclaimed land;" and (6) sealing and securing "all shaft openings and mine."[82]

Mining companies, by their own admission, have an ethical or moral duty to avoid the adverse social and environmental consequences of improper mine closure. Arguably, this duty alone—even in the absence of a legal obligation or voluntary commitment—gives rise to a liability for accounting purposes under SFAC 6. An ethical or moral duty, standing alone, however, would not satisfy the elements of promissory estoppel under SFAS 143. Similarly, an ethical or moral duty without commitment would not satisfy the three-part test contained in the IAS 37ED for recognition of a constructive obligation under IFRS. Public statements of a company's commitment to planning and budgeting for proper mine closure, as well as public commitments to voluntary codes of conduct such as the ICMM Sustainable Development Framework, however, may satisfy the criteria for liability recognition under U.S. GAAP and IFRS.

The first prong of the three-part test—the company has made a promise (promissory estoppel) or indicated to other parties that it will accept particular responsibilities (IAS 37ED)—is satisfied by widespread publication of the company's commitment. The second prong—the company reasonably expected other parties to rely on its commitment (promissory estoppel) or other parties can reasonably expect the company to perform those responsibilities (IAS 37ED)—arguably, also is satisfied by widespread publication of the company's commitment. It would be difficult for a company to argue that it did not intend stakeholders to rely on its commitments or that stakeholders should not rely on its published policies regarding corporate social responsibility. The case is stronger, however, when a company referenced its voluntary commitments when applying for pre-operation permits and approvals. The third prong—the other parties actually relied on the company's promise to his or her detriment (promissory estoppel) or will either benefit from the entity's performance or suffer harm from its nonperformance (IAS 37ED)—in many cases will be self-evident.

In summary, publicized voluntary commitments to ensure proper mine closure and environmental remediation—even in the

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[82] *Id.*

absence of laws mandating such measures—can give rise to constructive obligations that must be recognized as liabilities under U.S. and international accounting standards.

§ 28A.06 Solvency Considerations

Courts can consider contingent and off-balance sheet liabilities when determining solvency under corporate and bankruptcy laws.[83] A finding of insolvency in turn can serve as the basis for legal and contractual claims including fraudulent conveyance, involuntary bankruptcy, illegal dividends, and loan covenant violations.[84] Historical accounting standards for contingencies, (see discussion at § 28A.04[2]), which favor certainty over projections, tend to understate a company's environmental cleanup liabilities and exposure to related tort claims compared to the probabilistic methodologies used by courts to measure contingencies for purposes of determining solvency. Moreover, if their environmental liabilities were recorded at market value, some seemingly viable companies, upon close inspection, might be found to be insolvent. Asarco, which filed bankruptcy in 2007 with unfunded environmental cleanup liabilities estimated between $500 million and $1 billion, is an example of particular relevance to the mining industry.[85]

Judicial approaches to determining solvency contemplate market-based estimates of contingent liabilities.[86] Creditors, judges,

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[83] *See Protecting Directors and Officers of Corporations that are Insolvent or in the Zone or Vicinity of Insolvency: Important Considerations, Practical Solutions* (and cases cited therein), Richard M. Cieri & Michael J. Riela, 2 DePaul Bus. & Com. L.J. 295 (2004) (hereinafter Cieri & Riela).

[84] *Id*; *see also The Solvency of Mass Tort Defendants: A "Reasonable" Approach to Valuing Future Claims* (and cases cited therein), Alisa H. Aczel, 20 Emory Bankr. Dev. J. 531 (2004) (hereinafter Aczel).

[85] *Environmentally Bankrupt? Companies that file for bankruptcy protection should be held to account for their cleanup responsibilities, say critics*, Marie Leone, CFO.com, September 8, 2005, http://www.cfo.com/article.cfm/4370356/c_10007226.

[86] Under the Bankruptcy Code, insolvency is defined as the sum of the debtor's liabilities exceeding the sum of its assets "at a fair valuation." 11 U.S.C. § 101(32). The Bankruptcy Code's fair valuation standard, which has been incorporated into the Uniform Fraudulent Transfer Act (UFTA), has been interpreted as follows:

> [F]air value does not mean the amount the property would bring in the worst circumstances or in the best . . . For example, a forced sale price is not fair value though it may be used as evidence on the question of fair value . . . . The general idea of fair value is the amount of money the debtor could raise

and valuation experts, however, lack experience in estimating the market value of such liabilities. Creditors face even greater challenges in identifying unrecognized off-balance sheet environmental liabilities. As noted by a Wall Street analyst after independently researching the environmental liabilities of a major U.S. corporation, "our research reflects not a lack of effort or comprehensiveness, but the fundamental impossibility to uncover the liabilities, big or small, that the company may one day be forced to deal with."[87] In the past, creditors have rarely sought to comprehensively inventory and value a debtor's environmental liabilities to show insolvency.

Under SFAS 141R (discussed above at § 28A.04[3]), which will take effect in 2009, the surviving company in a business merger or acquisition must report certain types of contingencies, including most environmental remediation obligations, at market value.[88] The new rules will require recognition of environmental cleanup obligations without regard to the likelihood of government enforcement, the probability that the company will ever incur a loss to clean up the site, or the ability to reasonably estimate the amount of the total loss. As corporations, attorneys, accountants, and environmental professionals become experienced with "fair value measurement" of environmental liabilities, expect to see aggrieved creditors and shareholders making the case that companies with a history of polluting activities are "environmentally insolvent."

Determining Solvency. There are two distinct tests for determining solvency under corporate and bankruptcy laws: (1) the "balance sheet" test, and (2) the "cash flow" or "equity" test. The balance sheet test compares the fair value of the corporation's liabilities to the fair market value of its assets. The cash flow test

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> from its property in a short period of time, but not so short as to approximate a forced sale, if the debtor operated as a reasonably prudent and diligent businessman with his interests in mind, especially a proper concern for payment of his debts.

In re Ohio Corrugating Co., 91 B.R. 430, 436-37 (quoting *In re Joe Flynn Rare Coins, Inc.*, 81 B.R. 1009, 1017 (Bankr. D. Kan. 1988)).

[87] *Honeywell: Downgrading on Environmental Uncertainty*, JPMorgan North American Equity Research (April 27, 2006), at 3.

[88] SFAS 141R.

compares a company's ability to generate cash (from continuing operations, disposition of assets, or other capital raising activities) to the payments required to satisfy the company's obligations as they mature.[89] Under either test, liabilities to be included in the calculation are not limited to those recorded on the books but also include off-balance sheet liabilities and loss contingencies.

A loss contingency is an "existing condition, situation, or set of circumstances involving uncertainty as to possible . . . loss to an enterprise that will ultimately be resolved when one or more future events occur or fail to occur."[90] Examples of loss contingencies include: pending or threatened litigation; actual or possible claims and assessments; collectibility of receivables; obligations related to product warranties; risk of casualty loss or damage of property; threat of expropriation of assets; obligations of commercial banks under standby letters of credit; and guarantees of indebtedness of others. Environmental liabilities generally are considered loss contingencies arising from pending or threatened litigation or possible claims or assessments.

Although courts uniformly agree that loss contingencies must be included in a solvency determination, there is no clear standard for measuring them. Most courts apply a "probability discount" approach to determine the fair value of contingent liabilities. This method values a loss contingency based on the likelihood of an actual loss.[91] It is relatively straightforward when applied to a financial contingency with a face value such as a standby letter of credit. Its application in valuing non-financial contingencies with no face value is more problematic.

Valuation of nonfinancial contingent liabilities such as pending or threatened litigation is highly complex and subject to professional judgment. Valuation of environmental liabilities involves special considerations that can compound this complexity. Uncertainties may exist as to whether a site is actually contaminated, whether there is a legal duty to perform an investigation, whether known contamination imposes a legal obligation to perform cleanup, whether a government agency or private party will ever

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[89] Cieri & Riela, *supra* note 83, at 307.

[90] SFAS 5 ¶ 1.

[91] Aczel, *supra* note 84, at 541.

compel cleanup, whether related claims for bodily injury, property damage, or natural resource damages will arise, the scope of the contamination, the technology that will be required to remediate the site, and how long the cleanup will take. These uncertainties, among others, present a difficult challenge to any creditor or judge seeking to estimate a creditor's environmental liabilities for purposes of determining solvency.

It might seem reasonable to expect that valuation of contingencies for solvency purposes should be guided by generally accepted accounting principles. However, historical accounting standards for contingencies avoid the complexity of market-based valuation in favor of simplistic models that can be more easily applied. Consequently, accounting standards have been of little relevance to solvency determinations until recently. As explained below, the application of "fair value measurement" to contingencies under recently adopted accounting standards promises to better align the valuation of contingencies for accounting and solvency purposes.

Fair Value. SFAS 5, *Accounting for Contingencies*, provides a two-prong test for recognition of contingent liabilities. A reporting entity should recognize a loss contingency when "information available prior to issuance of the financial statements indicates that it is probable that . . . a liability has been incurred at the date of the financial statements" (the probability criterion) and the "amount of the loss can be reasonably estimated" (the reasonably estimable criterion).[92] In practice, the probability criterion is interpreted to mean that "there is a high likelihood of a future outflow of resources."[93] Likelihood of loss rather than the existence of a legal obligation is the determining factor under the probability criterion.

According to FIN 14, the reasonably estimable criterion is met when a range of loss (low end and high end) can be reasonably estimated.[94] Thus, a loss contingency for which the high end of the range of possible loss cannot be determined should not be recognized as a liability under FIN 14.

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[92] SFAS 5 ¶ 8.

[93] SFAS 141R ¶ B226.

[94] FIN 14 ¶ 2.

If a loss contingency meets the dual recognition criteria under SFAS 5, the amount of the liability must be estimated and recorded. FIN 14 provides a simplistic measurement technique for estimating the amount of the liability. When one amount within the range of loss is a better estimate than any other amount (the "most likely value"), that amount is used. When no amount within the range of loss is a better estimate than any other amount, the low end of the range of estimates (the "known minimum value") is used.[95] In practice, most environmental liabilities are recorded at their known minimum value.

The simplistic recognition and measurement approach in SFAS 5 and FIN 14 (incorporated by reference into SOP 96-1), which excludes consideration of contingencies that are not deemed highly likely to result in a reasonably estimable loss, is incompatible with the probability discount approach used by courts in solvency determinations. When determining solvency, courts are required to consider the fair value of all of the debtor's contingent liabilities. This requires consideration of all contingences, regardless of the probability of loss, and calls for use of a more robust valuation methodology. These requirements are met by *fair value* measurement.

Under the fair value measurement principle, a liability is recognized for a loss contingency whenever there is a present obligation, regardless of the likelihood of loss. Fair value eschews the notion of a "possible liability" that has yet to become "fixed." For example, whereas courts typically regard a guaranty as a possible liability that may never become an actual liability, under the fair value measurement principle, a guaranty represents an unconditional obligation to stand ready to perform in the event of specified future circumstances. Thus, a present liability exists and uncertainties about the probability, timing, and amount of potential loss are factored into the measurement.

The fair value of a liability is the price that would be paid to transfer the liability in an orderly transaction between market participants at the measurement date (exit price).[96] A quoted price for the identical liability in an active market is the best evi-

[95] FIN 14 ¶ 3.

[96] SFAS 157 ¶ 5.

dence of fair value.[97] If an active market does not exist, companies must estimate the exit price based on the assumptions that market participants would use in pricing the liability, including probabilistic analysis, risk premium, and profit margin.[98]

In contrast to the SFAS 5/FIN 14 approach, the fair value measurement principle favors (market-based) projections over certainty. It has the effect of accelerating recognition of contingent liabilities, thereby bringing previously off-balance sheet liabilities onto the financial statements. In addition, market-based estimates of the exit price for a contingent liability can be higher, sometimes much higher, than estimates produced under FIN 14 and SOP 96-1. This is demonstrated by the examples provided at § 28A.04[3].

In summary, a finding of insolvency can serve as the basis for legal and contractual claims including fraudulent conveyance, involuntary bankruptcy, illegal dividends, and loan covenant violations. Historical accounting standards for contingencies, which favor certainty over projections, tend to understate a company's environmental cleanup liabilities and exposure to related tort claims compared to the probabilistic methodologies used by courts to measure contingencies for purposes of determining solvency. If their environmental liabilities were recorded at market value, seemingly viable companies, upon close inspection, might be found to be insolvent.

[97] SFAS 157 ¶¶ 22 & 24.

[98] SFAS 157 ¶ B2.