

## After Sarbanes-Oxley: Environmental Cost Estimations, Disclosures, and Controls

A previous Corporate Advisory, "*The Initiative for Expanded Environmental Disclosure*," 13 May 2003, analyzed the current legal climate surrounding environmental disclosures, especially in light of the Sarbanes-Oxley Act and several emerging trends at SEC. The purpose of this advisory is to supplement the prior publication with detailed legal guidance on three particular emerging issues: (1) calculating environmental costs; (2) preparing disclosures about those costs; and (3) implementing controls required for environmental disclosures under the Sarbanes-Oxley Act.

### Review of Disclosure Requirements

Before turning to these emerging issues, it is worthwhile to review briefly current environmental disclosure requirements. As noted in the previous advisory, the nature and extent of environmental disclosures are governed by three components of Regulation S-K:

- Item 101 requires disclosure of material effects on capital expenditures, earnings, and competitive position that may result from compliance with federal, state, and local environmental laws.
- Item 103 requires disclosure of any environmental administrative or judicial proceeding if the proceeding is material, involves a claim for more than 10% of current assets, or involves potential monetary sanctions in excess of \$100,000.
- Item 303 (pertaining to MD&A) requires a reporting company to describe any environmental trends or uncertainties that have had or may have material effects on company sales, revenues, or income. Disclosures in MD&A have largely been driven by the requirements of SFAS-5 (and by implication, SOP 96-1), FIN-14, and SAB 92.

FASB Statement No. 5, Accounting for Contingencies, requires the accrual of a liability if (a) information available prior to issuance of the financial statements indicates that it is probable that an asset has been impaired or a liability has been incurred at the date of the financial statements and (b) the amount of the loss can be reasonably estimated.

If a "loss" is "probable" as set out above, the next inquiry under FAS-5 is whether the amount of the loss can be reasonably estimated. The appropriate guidance for

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that analysis is found in FIN-14. FIN-14 states that a loss is reasonably estimable when either the amount of the expected loss can be predicted with acceptable certainty or, failing that, a range of possible losses can be established. If only a range of costs can be estimated, and no value within that range is better than any other estimate, then the company is to disclose the range and record a liability for the amount of the low end of the range.

Finally SAB-92 states that, with respect to contingent losses, companies should provide detailed disclosures regarding the facts and assumptions underlying the amounts of environmental liabilities.

All of the foregoing requirements have been in existence for years, and nothing in Sarbanes-Oxley expressly changed these requirements. However, increasing attention on financial disclosures and corporate governance have markedly changed the financial and political environment in which these disclosures are made, leading in particular to greater scrutiny on quantifying and certifying environmental liabilities. For these reasons, this Advisory offers suggestions on how reporting companies can: (1) quantify environmental liabilities; (2) disclose those liabilities; and (3) set up the appropriate controls to assure the estimates are properly and timely evaluated and updated.

### **Quantifying Environmental Liabilities**

Environmental costs come in a wide range of forms. There are capital costs of pollution control, personnel and O&M costs for continuing compliance, fines and penalties for noncompliance, cleanup costs associated with historic disposal practices, and tort liability for pollution-related personal injuries and property damage.

It is for non-routine or contingent liabilities that disclosure obligations begin to get complicated because, if such costs can be "reasonably estimated," they too must be disclosed. When and how can these costs be "reasonably estimated"?

Early on in the process of investigating and remediating a site, the particular costs associated with all future actions may not be reasonably estimable. Consequently, at the initial phases of site investigation, a company would seem to comply with disclosure obligations if it stated that it expects to pay the costs of investigation (quantified, if possible), and that at the present time neither the nature and extent of required cleanup nor the cost of such can be estimated. We would ordinarily recommend however, if cleanup is reasonably likely to be required based on preliminary information, that fact be disclosed as well.

At some point, usually when the site investigation is concluded, and certainly when the study of feasible remedies is concluded, it becomes possible to estimate costs associated with various potential remedies. (Indeed, in many circumstances, preliminary cost evaluations are required in the feasibility study phase of the regulatory process.)

How does one approach disclosure of the costs of these kinds of potential liabilities? To answer this question, ASTM has published a standard (E-2137) to designate various relatively standardized methods for estimating costs. Briefly, the methods identified in ASTM's order of preference are:

- **Expected Value.** This method produces a statistical "expectation" for the

probability-weighted "average" cost associated with the range of possible remedies. There are many different ways of developing this value. One common method uses a "decision tree" to calculate, essentially, the weighted average of the product of the costs of all possible outcomes times their respective likelihoods. For example, if there are three possible soil remedies (land filling with a likelihood of 50% and a cost of \$5 million; thermal desorption with a likelihood of 30% and a cost of \$3 million; and solidification with a likelihood of 20% and a cost of \$2 million), the expected value for soil remediation would be \$3.8 million.

However, there are several caveats associated with such an approach. First, it is exceedingly rare for remedial options to have such tidy probabilities and associated costs. Each option itself will have a range of costs (which may not be independent), leading to extremely complicated "decision trees," much beyond the simple example presented above. In addition, as this example shows, the "expected" cost may not be "expected" in the ordinary sense of the word. In fact, in the above example, the "expected" cost cannot occur at all; it simply does not reflect any possible outcome.

Due to the necessarily oversimplified nature of "decision tree" types of EV calculations, some companies go to more sophisticated types of estimations, such as "Monte Carlo" estimates. In Monte Carlo methods, a computer simulates a sequence of events according to assigned probabilities and the cost of that sequence is calculated. The process is repeated again, and again, for thousands of iterations. The resulting distribution of costs forms a curve showing the likelihood of various costs.

One final difficulty with such "expected value" estimates is worth noting. Recall that FIN-14 states that if a range of costs can be estimated, the best estimate should be recorded as a liability, unless no estimate within the range is any better than any other estimate, in which case the low end of the range is recorded. While the topic can be extremely complicated, probabilistic cost estimates can pose thorny issues on whether any value within the range of possibilities, including the "expected value" is really a better estimate than any other.

- **Most Likely Value.** This type of cost calculation is used when there is only one reasonably likely outcome, and the cost of such can be calculated to a reasonable degree of certainty. The obvious example of such a circumstance would be when a design has been selected and approved, and the only uncertainty remaining is that associated with all cleanup actions in the real world, where the final cost is not known until it's final. Even here, though, the disclosed cost may be an "expected value" and the company may have to disclose a range of costs, along with corresponding circumstances that could cause the costs to differ from the expectation.
- **Range of Values.** This approach simply states, without probabilities, the range of possible costs. In the above example, for example, if the costs for various remedies are known to range between \$2 million and \$5 million, but the company simply cannot estimate which remedy is likely to be acceptable to the agency, then it may have no choice but to disclose that fact, disclose the range (booking the low end), and modify its disclosure once further certainty is possible. Range-based disclosures may also occur in probabilistic processes

where there is no better estimate within the range of costs, even despite the existence of a statistically discernable "expected value." In such cases, it may be best simply to disclose the range over some reasonable probability limits (such as the 5% and 95% values for the low- and high-end, respectively).

- **Known Minimum Value.** This sort of disclosure is most common in early phases when the nature and extent of cleanup, if any, cannot be estimated, and the only probable costs are, for example, investigation or identified removal actions.

As is apparent from the above, a thorough process to estimate environmental costs can be quite complicated. Even for relatively simple sites, a cost estimation and its backup will usually fill a notebook, and cost estimates for complex sites can span an entire bookshelf.

The cost estimates must then be updated every quarter. Given the fact that most environmental cleanups move at glacial speed, the quarterly updates will normally be minimal. Nevertheless, the legal and regulatory assumptions and likelihoods should be double-checked, any completed work accounted for, the quantities and unit costs for future work verified, and then the calculations re-run.

### ***Disclosing Environmental Costs***

No matter what method the company uses to estimate environmental liabilities, recall that once these costs are estimated, SAB-92 requires that the assumptions underlying the estimates, as well as the circumstances that could affect the ultimate liability, must be disclosed.

Also, one should be mindful of the types of disclosures called for under SEC's proposed rules (See SEC Release No. 33-8098) on "critical accounting estimates," which are defined to mean estimates based upon assumptions that are highly uncertain when the estimate is made, the effect of which could have a material impact on the company's financial conditions. The proposed rule would require a discussion in the MD&A section of:

- The methodology used in any critical accounting estimates, including the assumptions used, and how the recorded estimate affects the company's reported financial results;
- How changes in accounting estimates would result from (i) making reasonably possible near-term changes in the most material assumptions or (ii) using in place of the recorded estimate the ends of the range of reasonably possible amounts; and
- Whether or not management discussed the development, selection, and disclosure of these estimates with the company's audit committee.

While the proposed rule may or may not become final along the lines of its current form, it should be evident that the SEC and the investment community is becoming increasingly demanding in understanding not only the magnitude of future cost disclosures (including environmental cost projections), but how those cost disclosures were developed, the assumptions that went into them, and how the estimates might be different under other reasonably possible scenarios.

An informative disclosure can usually be boiled down to four components:







