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Corporate Environmental Reports: The Need for Standards and an Environmental Assurance Service

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SYNOPSIS: Many companies are becoming more responsive to investors' concerns about the environment by voluntarily compiling and issuing periodic environmental reports that are essentially independent of the annual financial reports. Because of an absence of environmental reporting standards, however, these reports differ significantly thereby confounding comparability. Additionally, the credibility of these reports is being questioned, as they are typically not verified by independent third parties. As many public accounting firms are currently attempting to develop additional assurance services to offer existing and potential clients, verification of environmental reports may be an appropriate application of accounting firms' attestation skills and their desire to expand the client relationship. Such verification engagements may also be beneficial for corporations, investors, regulators and, ultimately, the environment. Guidance and criteria for environmental verification services are scant, however, and the accounting profession may benefit from expeditious development of such standards so that public accountants are empowered to offer a needed assurance service and compete effectively with other consulting firms.

INTRODUCTION

As societal concern for the environment grows, many companies are becoming more responsive to investor demands for information regarding corporate environmental responsibility. Several corporations have disclosed such information to the investing public in the form of periodic environmental reports that are issued separately from the annual financial report. Because of the absence of environmental reporting standards, however, these reports differ significantly from company to company, confounding comparability. Further, the information in many of these environmental reports lacks credibility, as it is not independently verified by outside parties. The increasing prevalence

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of these reports, consequently, may create a new niche for those public accounting firms that develop expertise in environmental reporting and verification.

CURRENT TRENDS IN CORPORATE ENVIRONMENTAL REPORTING

Environmental issues are an overwhelming concern for many corporations. The overall known environmental liability in the United States is currently estimated to be between 2 and 5 percent of the gross national product. Environmental cleanup costs under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, or "Superfund," are approximately $500 billion and will take 40 to 50 years to complete (Chadwick et al. 1993). Related penalties are also on the rise; the federal government, for example, now prosecutes individuals such as corporate officers for environmental offenses even if they did not personally commit the violation of the law (McMahon 1995). The U.S. Sentencing Commission is currently devising sentencing guidelines related to environmental crimes that will further increase existing penalties (Uzumeri and Tabor 1997).

Because of investor concern about corporate environmental issues, the Securities and Exchange Commission (SEC) has, in recent years, increased environmental disclosure requirements of public companies. In 1994, SEC Commissioner Richard Roberts acknowledged that heightened public awareness of environmental matters has resulted in:

> increased pressure to bear on the SEC to ensure that publicly-held companies are disclosing in a fair, full, and timely manner the present and potential environmental costs of an economically material nature. My view is that the company owes this to the investing public. (*Risk Management* 1994, 15).

In June 1993, the SEC issued Staff Accounting Bulletin 92 (SAB 92) which dictates increased and more prominent disclosure of existing and potential environmental liabilities (*Risk Management* 1994), and SEC Commissioner Roberts threatened that some companies would be "drawn and quartered" by the SEC's enforcement division for inconsistencies and lack of disclosure related to published corporate environmental information (Kreuze et al. 1996). One year later, however, more than one third of U.S. public companies did not plan to mention existing and potential environmental liabilities in their annual report as required by SAB 92 (*Environment Today* 1993; *Journal of Accountancy* 1994). These companies could face possible sanctions from the SEC for inadequate disclosures and may lose their registration or be forced to pay fines of up to half a million dollars for each violation (Kreuze et al. 1996).

Partially because of the SEC's concern about environmental disclosures, the Accounting Standards Executive Committee of the American Institute of Certified Public Accountants (AICPA) issued Statement of Position 96-1 in October 1996. This statement was intended to provide clarification to public accountants and their clients regarding adequate disclosure of environmental remediation liabilities.

Companies are also experiencing increased disclosure pressure from the Environmental Protection Agency (EPA). In early 1998, the EPA began requiring additional Internet disclosures of companies in five large industries: oil, steel, metals, automobiles and paper. Using an Internet pollution profile designed by the EPA, the affected corporations must report the number of plant inspections in the past two years, noncompliance ratings, dates and amounts of penalties imposed, the number of spills, pounds of material spilled and any resulting injuries or deaths, a hazard rating for each factory

based on the toxicity of the chemicals released, the ratio of pollution releases to production, the racial and income profiles of those living within three miles of each plant, and information from the Toxic Release Inventory (*St. Louis Post-Dispatch* 1997). The resultant "Envirofacts Warehouse" on the Internet (www.epa.gov/enviro/) includes environmental data about thousands of corporate industrial sites.

In the first half of this decade, the EPA began penalizing companies for environmental violations that were disclosed in the information released to stakeholders. In March 1996, however, the EPA decided to reduce or eliminate penalties for responsible companies that perform periodic internal audits, correct the problems discovered and voluntarily report the information. Nonetheless, the EPA refuses to treat a company's internal environmental audit as privileged business information and reserves the right to assess penalties on all violations found through these self-examinations (Shanoff 1995).

In addition to government agencies, investors and other stakeholders are demanding more disclosure of company environmental information because of their interest in environmental issues and their concern about the magnitude of related costs and liabilities (Mastrandonas and Strife 1992). In response, many corporations, including almost half of the Fortune 500, are now compiling and issuing periodic environmental reports that are voluntary and essentially independent of the traditional annual financial report (*CFO* 1996).

Many companies are now displaying their corporate environmental reports on their Internet sites; table 1 lists several corporations and the Internet address for their periodic environmental reports. Most of these corporations also issue these reports in a hard-copy, published form similar in appearance to the traditional annual financial report. A review of these online or printed environmental reports reveals extreme diversity in format and data provided, but typical inclusions are report scope, corporate environmental values and commitment, tangible goals and performance related to those goals, environmental management systems, legal compliance, enforcement actions and liabilities, industry-specific environmental issues, the company's environmental performance as depicted by the media, financial data related to environmental issues and third party audits or reviews (Mastrandonas and Strife 1992).

While there may be some similarities in content, current periodic environmental reports are very different with no common format and varying amounts of data and information. Some of these reports are short, perfunctory and contain little quantifiable data while others are very detailed and lengthy with numerous charts, graphs and tables related to specific pollutants, abatement expenditures, tons of waste, etc. An innovative example of a detailed environmental report is that of Hoescht Company whose environmental report is presented on a CD-ROM in multiple languages including background music and video clips. The relevant time period also differs among these reports; some are prepared annually, others biannually, and still others have been prepared with no indication about the timing of future reports. Some corporate environmental reports address not only environmental matters but report on health and safety issues as well; the verification reports included in appendices A and B, for example, relate to examinations of corporate environment, health, and safety reports and programs.

These several trends indicate an increased emphasis on corporate environmental communications by all stakeholders, including the investing public and regulatory bodies. Such environmental information is being released by more companies to an increasing number of interested parties.

TABLE 1
Several Companies With Internet Environmental Reports

Company	Environmental Report Internet Address
3M	www.mmm.com/profile/envt/index.html
Air Products and Chemicals, Inc.	www.airproducts.com/care/where_we_stand/tochome.html
AMR Corporation	www.amrcorp.com/amr/environ.htm
Ashland, Inc.	www.ashland.com/environment/ehs_ar/
Ashland Chemical Company	www.ashchem.com/index.html
Atlantic Richfield Company	www.arco.com/Corporate/ehs/index.html
AT&T	www.att.com/ehs/
Bank of America Corporation	www.bankamerica.com/community/env_progress_rep.html
BASF Corporation	www.basf.com/commitment/ecology/
Baxter International, Inc.	www.baxter.com/investors/citizenship/environmental/index.html
Bayer	www.bayer.com/bayer/bayer/ueberblick/umweltschutz_e.htm
Bethlehem Steel Corporation	www.bethsteel.com/environment/index.html
The Body Shop	www.think-act-change.com/environment/enviromeasup.html
Bristol-Myers Squibb Company	www.bms.com/EHS/Reports/index.htm
British Airways	www.british-airways.com/inside/comm/environ/docs/env1.shtml
Central and South West System	www.csw.com/Investor_Corner/default.htm
Compaq Computer Corporation	www.compaq.com/corporate/ehss/97-98rpt/index.html
Conoco, Inc.	www.conoco.com/safety/envi/index.html
The Dow Chemical Company	www.dow.com/environment/ehs.html
Digital Equipment Corporation	www.digital.com/info/ehs/metrics.htm
E. I. DuPont de Nemours and Co.	www.dupont.com/corp/gbl-company/she/index.html
Eastman Kodak Company	www.kodak.com/US/en/corp/environment/97EnviroRpt/corpAnnualRpt/hse1997annualReport.shtml
Eli Lilly & Company	www.ehs.lilly.com/1997/main.htm
Glaxo Wellcome	www.glaxowellcome.co.uk/world/hse/
General Motors Corporation	www.gm.com/about/info/world/97Enviro/html/set11xa.htm
Hoechst	www.hoechst.com/english/index.html
IBM Corporation	www.ibm.com/ibm/environment/annual98/
Intel Corporation	www.intel.com/intel/other/ehs/index.htm
International Paper Corporation	www.internationalpaper.com/our_world/our_world_index.html
John Deere and Company	www.deere.com/aboutus/env/
McDonald's Corporation	www.mcdonalds.com/community/environ/info/index.html
Mitsubishi Corporation	www.mitsubishi.co.jp/environment/envir_rep/index_e.html
Mobil Corporation	www.mobil.com/this/ehs/report/index.html
NEC Corporation	www.nec.co.jp/english/profile/kan/annual/annual.html
Northern Telecom	www.nortel.com/cool/Habitat/
Procter & Gamble	www.pg.com/docInfo/enviro/envidx.htm
Rockwell International Corporation	www.rockwell.com/About/Env/
Rohm and Hass Company	www.rohmhaas.com/company/Environmental/index.html

(*Continued on next page*)

TABLE 1 (Continued)

Company	Environmental Report Internet Address
Sun Microsystems, Inc.	www.sun.com/corporateoverview/ehs/
United Parcel Service	www.ups.com/about/inits.html
United Technologies	www.utc.com/EHS/ehs96/report96.htm
Waste Management, Inc.	www.wastemanagement.com/enrep96/contents.htm
Xerox Corporation	www.xerox.com/ehs/1996/index.htm

THE NEED FOR ENVIRONMENTAL STANDARDS AND VERIFICATION

The total amount of investments that are currently selected on the basis of ethical, environmental and political criteria is estimated to be in excess of one trillion dollars (Kreuze et al. 1996). Many investors and other stakeholders, therefore, may be utilizing the information published in corporate environmental reports to make investing decisions. As a consequence, these publications must be comprehensive, accurate and reliable, and this may be best assured by external professional verification. Accordingly, the next step in the evolution of corporate environmental reporting may be external verification and publicly available verification reports (Uzumeri and Tabor 1997), and a growing sector of the business community believes these functions should be fostered and accomplished by the public accounting profession (Cheney 1995; Demery 1996; *Environmental Management Today* 1996; Sylph 1992).

This need for external verification is supported by several key assertions. First, while additional environmental reporting standards may be necessary, external verification will likely dictate improved environmental reporting because of the scrutiny inherent in such an examination. Second, external verification of periodic environmental reports will bring additional assurance and credibility to the annual financial report of companies with significant environmental considerations. An example which was mentioned previously is the issue of environmental remediation liabilities. Because current disclosure requirements related to these liabilities are a concern for companies and their auditors, further work and research by competent third parties will add assurance that these issues are adequately addressed. Third, the threat of litigation and other actions by shareholders or regulatory authorities for misrepresentations in the periodic environmental reports may be substantially reduced by third party verification. Serious problems can result from environmental issues, ranging from minor penalties to bankruptcy, and external verification of the related information may prevent companies from disclosing inaccurate or misleading information and ensure adequate reliable disclosures. Fourth, without the credibility afforded by competent external verification, some investors may consider corporate environmental publications to be "greenwash"; i.e., exercises in public relations rather than environmental responsibility. Some environmentalists complain that many of these publications adroitly repackage environmental data that is already available elsewhere and put the best possible light on corporations' environmental records (Aeppel 1993; Greer and Bruno 1996). The credible assurance provided by verified environmental reports would likely appease environmental groups and may spur investment in environmentally responsible

companies by environmentally concerned investors. Studies of investor preferences and behavior have indicated that many investors are concerned about environmental issues and would be more likely to invest in companies that have favorable environmental records (*The Accountant* 1998; Deutsch 1998; *Investors Chronicle* 1998; Krumsiek 1998).

Some corporations may defend the status quo of minimal standards related to environmental reporting and verification, arguing that economic forces will reward environmentally oriented companies if the market ascribes value to their efforts. Others contend, however, that unregulated economic forces may result in a healthy economy but not necessarily a healthy environment; i.e., an economic market without environmental standards does not efficiently lead to environmental protection (Greer and Bruno 1996).

Unfortunately, while the need for external verification of environmental reports may be warranted, major challenges exist: an absence of standards related to environmental reporting, an absence of standards related to environmental verification engagements, and a scarcity of public accountants who are qualified to perform such a service. In 1996, the Global Environmental Management Initiative (GEMI), an organization of large environmentally proactive businesses, published the results of a study of environmental reports and their perceived value. This study involved a series of interviews of environmentalists, investors, media, regulators and corporations. These parties consistently indicated that third-party attestation of environmental reports is currently of little value because of the lack of guidelines and standards related to the reports and their verification. Those interviewed suggested that the needed standards should cover scope, limitations and content of third-party verification and statements, as well as eventual integration into the accepted accounting attestation scheme (*Environmental Management Today* 1996).

The accounting profession in the United States may learn much about addressing these challenges from environmental verification practices in Europe. In 1993, the European Council of the European Union adopted the Eco-Management and Audit Scheme (EMAS), a regulatory plan intended to promote improvement in the environmental performance of industrial companies. In addition to many specific standards, EMAS requires companies to prepare publicly available environmental reports which must be validated by a qualified third party, that is, an accredited EMAS verifier (*Environmental Management Today* 1996). Because of the specific standards and external verification, the environmental reports prepared under EMAS are likely to be more useful and reliable than their unregulated, unverified counterparts in the United States.

Although EMAS has been in effect for a relatively short period of time, there is some evidence of its success and acceptance by the European business community. The number of applications for accreditation as EMAS verifiers has steadily increased, indicating that accounting and consulting firms may be considering EMAS verification to be a potentially profitable type of engagement. Additionally, all EMAS registered sites were surveyed in 1996, regarding their perceived value of EMAS. Without exception, all respondents ascribed value to EMAS and indicated that, given the choice, they would go through the process again (EMAS Help Desk Internet Site 1998).

While external verification of environmental programs and reports is not currently required in the U.S., many corporations voluntarily elect to undergo external environmental examinations. One survey of the Standard & Poors 500 found that most corporations undergo some type of environmental verification, but few make the results of

those examinations public (Aeppel 1993). One of the primary reasons for this lack of disclosure is the absence of environmental reporting standards. While corporate officials may value an external verification of the environmental report for internal purposes, they may be reluctant to make the verifier's report public because the lack of standards confounds stakeholder analysis and comparisons. (*Environmental Management Today* 1996).

Other companies, however, believe that sharing the environmental verification report builds trust with the public (Aeppel 1993). Four such public reports are included in the appendices: appendix A displays the environmental verification reports of two U.S. corporations, DuPont and WMX Technologies; appendix B shows the reports of two other companies, British Petroleum and Northern Telecom, that are headquartered outside the U.S. A review of these four reports reveals the diversity resulting from an absence of environmental reporting and verification standards. Two of these were prepared by Big 5 public accounting firms while the other two were prepared by consulting firms, one of which is oriented specifically toward environmental consulting.

These voluntary efforts to compile corporate environmental reports, have them independently verified, and publish both the environmental report and the related verification report may exemplify what Elliot (1994a, 115) referred to as an accountability obligation. Such obligations may originally be voluntary but later thought by society to be so clear and compelling that they should be uniformly performed and, perhaps, written into law (Elliot 1994a).

One of the likely concerns of corporate officials regarding environmental report verification is the related increase in professional fees. These added costs, however, could be partially managed by an adequate and efficient internal audit system. Many companies that currently issue periodic environmental reports have significant internal audit functions, and the environmental work of these internal audit departments could be evaluated and used by the external verifiers. As in the case of financial statement audits, the more the external verifiers can rely on the work of internal auditors, the lower a company's costs related to environmental verification. Additional professional fees may also be offset by the positive public relations that may accrue from issuing a verified environmental report; that is, "being green" may have a positive impact on revenues and stock prices.

In addition to concern regarding increased professional fees, company officials may be hesitant to provide additional environmental disclosures that could result in litigation and more public and government scrutiny if environmental disclosures are inaccurate or incorrectly interpreted. Adverse public sentiment and regulatory reaction could also result if a corporate environmental report discloses detrimental environmental effects that were not previously known or understood.

With regard to the challenge of developing useful environmental reporting and verification standards, progress is being made by various organizations. In addition to the GEMI mentioned previously, bodies such as the International Standards Organization (ISO), the Coalition for Environmentally Responsible Economics, and the Council on Economic Priorities have established useful principles and standards, although participation in such programs is voluntary and, consequently, does not have the regulatory impact of EMAS. An example of an industry environmental initiative is the Responsible Care Program of the Chemical Manufacturers Association.

One of the more extensive sets of voluntary environmental standards is ISO 14000, which was introduced in 1996 by the ISO. These standards enable a company to design,

implement and monitor an environmental management system. The ISO 14000 standards also provide an objective way to verify company environmental performance reports (*The CPA Journal* 1997).

For external verification of environmental reports to become viable in the United States, reporting and verification standards similar to those of the EMAS and ISO must be developed and uniformly adopted by companies that publish these reports. One possible source of such standards is the EPA. Following the example of Securities Acts of 1933 and 1934, the U.S. Congress could enact legislation that would require verified environmental statements of corporations and establish the EPA as an oversight agency to see that the private sector developed, enacted and enforced the necessary standards. Environmentalists may argue that this analogy is apt. Just as Congress in the 1930s was reacting to a problem arising, in part, from unaudited corporate financial statements, current lawmakers may attribute a degree of environmental problems to inadequate independent verification of corporate environmental information. Under this possible model, a private, independent organization, similar to the Financial Accounting Standards Board, would develop environmental reporting standards while another private group, similar to the Auditing Standards Board of the AICPA would promulgate environmental verification standards. Another possibility would be the EPA's adoption and enforcement of standards similar to those of ISO 14000 or the EMAS.

The Necessity of Environmental Reporting Standards

Widely recognized or mandated environmental reporting standards would enable corporations to define their responsibilities and be able to deliver useful reports which would, in turn, help corporate management assess the environmental considerations of their operations. Such criteria-based reports would also empower corporate management to compare their environmental efforts to those of their competitors. Currently, environmentally proactive companies have difficulty distinguishing themselves from other companies because of the lack of environmental reporting standards. Polaroid Corporation, for example, has attempted, in recent years, to publicly disclose useful environmental data about the company but has been stymied in their efforts by the absence of reporting criteria. Polaroid's director of health, safety and environment stated that, without recognized standards, environmental information can always be challenged as inaccurate or incomplete (Aeppel 1993).

Environmental reporting standards would also benefit investors and other stakeholders by making the reports more consistent and comparable. Because of the extreme diversity and lack of comparability among existing periodic environmental reports, investors may have difficulty using these reports to determine which companies are more environmentally oriented. Currently, corporate environmental reports can disclose as much or as little information as corporations prefer in whatever format they prefer. Many corporate officials, such as those at Bristol-Myers Squibb and Polaroid Corporation, have expressed concern about public confusion resulting from the lack of standard definitions in environmental reporting (Aeppel 1993; *Environmental Management Today* 1996). The term "water usage," for example, can be defined differently from company to company and industry to industry (*Environmental Management Today* 1996).

While some corporations genuinely want to be environmentally friendly and share information related to their efforts with the public, the absence of environmental reporting standards enables other corporations to publish "green glosses," i.e., attractive environmental reports that disseminate little useful information but are designed to

enhance public relations (Aeppel 1993). Corporations may be especially tempted to publish few tangible details about their environmental efforts if their competitors' environmental programs and efforts are more substantive than their own.

The Necessity of Environmental Verification Standards

In addition to environmental reporting standards, the accounting profession needs to study and consider several related issues to develop adequate guidelines for external environmental verification. The reports in appendices A and B illustrate the diversity that stems from a lack of verification standards. In reviewing these four verification reports, one may wonder what is being verified. The two reports in appendix A discuss the verifiers' examination of environmental management systems but do not comment specifically on the corporate environmental reports in which the verifiers' reports are included. The two reports in appendix B, on the other hand, specifically verify the corporations' periodic environmental reports. A consequent issue that must be addressed in promulgating environmental verification standards is the scope of a verification engagement. To what extent, for example, should the verifier examine the corporation's environmental systems, or should the verification engagement be confined to determining the credibility of information published in the periodic environmental report?

As discussed previously, another critical issue that must be addressed by the verification process is the adequacy of reported environmental liabilities disclosed in both the financial statements and environmental reports. Verifiers must assess the client's disclosure of environmental contingencies, liabilities and the related risks.

Other considerations of an external environmental verifier include disclosures of contaminated assets and hazardous waste, the effectiveness of internal controls related to environmental issues, and client adherence to applicable environmental laws and regulations, as well as SEC rules regarding environmental issues (Dittenhofer 1995). The SEC, for example, currently mandates that public corporations file a report if pollution expenditures are having a material effect on earnings (Williams and Phillips 1994). While these issues will have to be addressed by the verifier, there will doubtless be many other company-specific and industry-specific environmental concerns that will require consideration during a verification engagement.

The Necessity of Environmental Expertise in Public Accounting

Another major challenge to external verification of environmental reports is the scarcity of requisite environmental verification expertise in the public accounting profession. Public accountants may be interested in developing a new assurance or attestation service related to corporate environmental reports, but their qualifications to provide such services may be questioned. This problem may be partially addressed by a recent cooperative effort by the Environmental Auditing Roundtable and the Institute of Internal Auditors (IIA). In 1997, these two groups created the Board of Environmental Auditor Certifications (BEAC), an independent, nonprofit organization intended to provide certification of environmental auditors. A public accountant who wishes to attain the BEAC 14000 PLUS certification must successfully complete an examination and have appropriate education and environmental auditing experience. The IIA is currently offering comprehensive courses to train individuals in environmental auditing and prepare them for the BEAC certified auditor examination (*The CPA Journal* 1997).

A NEW NICHE FOR PUBLIC ACCOUNTANTS

The role of public accountants in society is rapidly evolving with the emergence of many assurance services that expand the profession into dimensions of client service which have not been previously offered by accounting firms. In addition to promoting a wide variety of professional service possibilities, the Internet site of the AICPA indicates that environmental matters may result in assurance opportunities for AICPA members, and Elliot and Pallais (1997, 59) similarly suggest that information related to air and water quality, environmental restrictions and environmental effects are appropriate assurance services for professional accountants to offer companies. They also list "annual environmental report" in a list of assurance services possibilities (Elliot and Pallais 1997).

The credibility of corporate environmental information is critical as it may be influencing investing decisions, and many in the accounting, business and environmental communities believe that public accountants should and will have a role in attesting to these disclosures (Cheney 1995; *Environmental Management Today* 1996; Sylph 1992). If accounting firms acquire the related expertise, they can address this concern as they have historically with regard to a company's financial information. By providing assurance on environmental reports, public accountants may foster investor reliance on these reports and develop a new and potentially profitable service to offer existing and prospective clients.

Because of accounting firms' historical and traditional services, however, some companies and investors may be skeptical of the competence of public accountants in providing assurance services that require specialized knowledge and skills that are not typically associated with accounting firms (Burgess 1995). Robert K. Elliot (1994b, 80), Vice Chair of the AICPA, explained:

> A question also might be raised on the grounds of the CPA's competence. However, there is no reason CPA firms, convinced of the range of available opportunities, cannot and will not seek and employ the relevant portfolio of skills to fulfill such a broader role. If the opportunities are attractive, competence will be achieved.

The BEAC 14000 PLUS certification that is currently being offered by the IIA is an example of efforts by accountants to enhance their skills regarding environmental attestation. In the interest of expanding the array of assurance services offered by public accountants and enhancing their competence in providing those services, the AICPA may develop a program similar to that of the IIA.

An accounting firm that is interested in entering the environmental verification market may develop a cooperative arrangement with an environmental consulting firm. Such an arrangement could mitigate concerns regarding the environmental competence of the accounting firm in such engagements and relieve, to some extent, the accountant's responsibility to acquire the needed expertise. In such a partnership, an environmental consulting firm would presumably bring environmental expertise to the relationship, while the accounting firm would add experience related to internal controls, evidence gathering and reporting. The British Petroleum report in appendix B is an example of a collaborative verification effort between a public accounting firm, Ernst & Young, and an environmental consulting firm, Environmental Resources Management Limited.

Depending on the availability of in-house environmental verification expertise and experience, the accounting firm providing a company's environmental assurance services may or may not be the same firm that audits the client's financial statements. The

synergy, however, afforded by a corporation contracting one accounting firm to provide assurance on both the environmental report and the financial statements would likely result in lower total professional fees for those services, as well as an expanded relationship between the firm and client. This suggestion of an expansion of the public accountant-client relationship is consistent with the similar concepts of business audits (Drucker 1992) and multidimensional attestation (Uzumeri and Tabor 1997) whereby public accountants attest to a wide variety of corporate information beyond the historical financial statements. Obviously, for public accounting firms that are qualified to provide these services, verification of environmental reports may also develop as an expansion service to offer potential clients whose current financial statement auditors have not acquired the necessary skills.

A public accountant's examination of a corporate environmental report is currently considered an attestation engagement subject to the AICPA Statements on Standards for Attestation Engagements. With this type of engagement, the practitioner makes statements regarding the conformity of management assertions with applicable criteria. As discussed previously, however, the continuing issue for environmental report verification is the definition of the applicable criteria or standards. Until such criteria are developed, the value of attestation on environmental reports and disclosures is questionable.

Because of the lack of widely accepted criteria for corporate environmental reports, the attestation standards currently place public accountants at a competitive disadvantage with consulting firms that are not bound by such standards. Environmental consulting firms can essentially perform whatever procedures they consider necessary when engaged to verify corporate environmental information and create whatever reports they deem appropriate. The resulting varied reports, such as those in the appendices, not only confuse stakeholders and investors but retard requests for them. Understandably, members of the accounting profession have been critical of the verification efforts conducted by consulting firms (*Environmental Management Today* 1996). At present, public accounting firms that are interested in providing environmental verification services find themselves in a difficult position. They must acquire the necessary expertise, build a client base of companies that are interested in the service, and perform environmental verification within the parameters of the attestation standards that provide no specific guidance with regard to environmental assurance. This process must be accomplished while competing with environmental consulting firms that are not restricted by such standards.

If the AICPA, however, acts quickly in establishing standards for an environmental assurance service, the attestation standards can provide a framework whereby the profession may simultaneously create a demand for environmental verification and grant itself an exclusive market advantage in providing those services. Environmental verification may be developed as an assurance service analogous to WebTrust, an assurance service offered exclusively by AICPA members. When a corporation that is interested in direct marketing through the World Wide Web contracts with an AICPA member to provide the WebTrust service, the member performs specific procedures recommended by the AICPA in examining the security and controls related to the company's web site. If the results are satisfactory, the AICPA member grants the company the right to display the AICPA WebTrust seal on their web site for a limited period of time. This seal provides consumers with a degree of assurance that they can safely conduct Internet transactions through the company's web site with minimal concern that confidential information, such as credit card data, will be stolen.

In a similar fashion, the AICPA could develop an environmental assurance service that would result in a "green seal" that companies could display on their web site and published periodic environmental report. This seal would signify that an AICPA member had conducted certain procedures related to the environmental performance and disclosures of a company and was satisfied that criteria had been met. To obtain the seal, companies would have to contract with an AICPA member who provided the AICPA environmental assurance service.

This arrangement could prove advantageous to many stakeholders. Because of the standards and requirements imposed by such a service, corporations would benefit from the credibility that third-party verification would add to their environmental disclosures. As mentioned previously, such verification would undoubtedly result in increased expenses related to professional fees, but these costs may be offset by resulting positive publicity regarding the company's environmental efforts. Investors and the general public would similarly benefit from an AICPA green seal because it would enable them to quickly and easily determine which companies are environmentally oriented without investor knowledge of environmental jargon or analysis of convoluted verification reports such as those in the appendices. AICPA members would benefit from having an additional well-defined assurance service to offer companies, and demand for this service could grow quickly as companies and investors act to take advantage of the benefits mentioned above. Additionally, such an assurance service would be controlled by the AICPA, as is the WebTrust designation discussed previously. As a consequence, the AICPA environmental assurance service would be offered exclusively by AICPA members, and consulting firms that are not members of the AICPA could not offer the service. Finally, a very positive eventual outcome of an AICPA-sanctioned environmental assurance service may be greater corporate stewardship of the environment, as companies amend their practices in an effort to achieve the green seal designation.

From a regulatory perspective, development of an environmental assurance service may also mitigate the likelihood of additional government involvement regarding corporate environmental disclosures. The EPA, SEC and state and local governments may be content with a corporation's environmental disclosures if the results of an environmental assurance engagement are satisfactory.

Considering the marketing aspects of a green seal designation, expeditious AICPA development of this assurance service could be an appropriate and timely reaction to three market trends. First, many public accounting firms are currently attempting to find appropriate extensions of their existing attestation skills and expand their assurance service offerings. Second, many investors want credible, verified information about corporate environmental efforts. Third, corporations that are willing to provide more environmental data are often frustrated by the current lack of standards and criteria for environmental reporting.

While the market for environmental assurance seems promising, however, the accounting profession's "window of opportunity" may be limited, as many consulting firms are also interested in providing this service. Delays by the accounting profession in addressing environmental verification issues will allow other consulting firms to develop the needed expertise and client base before many public accountants enter this market. Groups or organizations of consulting firms may develop their own green seal and related criteria, complicating effective market entry by accounting firms.

Failure by the accounting profession to act quickly in developing environmental assurance services could also result in a demand for external verification of corporate

environmental reports from regulatory authorities. In the interests of environmental protection and greater private sector environmental accountability, the EPA may begin requiring external verification of corporate environmental information; an action that the agency has already prescribed for some individual companies in the past (Aeppel 1993). Ostensibly, the SEC, acting in the interests of the investing public, could further improve the quality of information being delivered to present and potential stockholders by requiring verification of corporate environmental reports.

CONCLUSION

In an era of increased environmental awareness and business scrutiny, corporate environmental reports may be having an appreciable effect on investment decisions. External verification of this information would lend substantial credibility to this new trend in corporate communications and would benefit the investing public by providing assurance on a relatively new form of disclosure in an increasingly complex investment marketplace. For such benefits to accrue, however, the accounting profession must be proactive in promulgating environmental reporting and verification standards and developing an environmental assurance service.

In one corporation's recent environmental report, the Chief Executive Officer stated:

> Why are we issuing this report? Because it's important that you know what (our company) is doing to protect...the environment. We think we are acting responsibly in these areas. Now you have the facts to make your own judgment.

What assurance do stockholders and potential investors have that this report gives the needed facts to make such a judgment? Is the information contained in this report accurate and reliable? If this report had been verified by a public accountant through an environmental assurance service, the stakeholders would certainly be better able to draw conclusions about the company's environmental efforts.

APPENDIX A
Two Examples of Environmental Verification Reports of Companies Based in the United States

Example 1:

Third-Party Evaluation of DuPont's Safety, Health and Environment (SHE) Audit Programs

Environmental Resources Management, Inc. (ERM) conducted an evaluation of DuPont's Environmental, Safety, Occupational Health and Process Safety Audit Programs managed by Corporate Safety, Health and Environment Excellence Center and implemented by the Company's Strategic Business Units. ERM evaluated the elements and performance of the Programs in order to render an independent opinion about their effectiveness in achieving improved SHE performance throughout the Company. The assessment was conducted between May and November 1996 and included a review of Program documentation, interviews with Program Managers and staff, selected interviews of site representatives who have been subject to the audits and observation of nine audits.

The Programs were evaluated against (1) audit program criteria developed by the U.S. Environmental Protection Agency in its 1986 and 1995 Environmental Auditing Policy Statements, by the 1993 U.S. Department of Justice Draft Corporate Sentencing Guidelines for Environmental Violations, and the 1996 International Organization for Standardization of Environmental Audit Guidelines (ISO 14010, 14011 and 14012), (2) DuPont's internal Audit Program guidance and

policy as principally articulated in its SHE Audit Program Standard, and (3) generally accepted audit practices existing in comparable companies.

ERM reviewed the scope and elements of the Programs, the procedures utilized, the resources applied to implement the Programs and the degree and quality of management commitment. Based on the information made available to ERM by DuPont, ERM has concluded that DuPont's Programs are generally consistent with and, in some cases, exceed expectations of the established criteria. In our opinion, the Programs provide competent, reliable and objective information to management about the status of the Company's SHE compliance programs and performance. Further, DuPont's management is responsive in correcting deficiencies when they are identified by the Programs.

As shown in Figure 1, a number of the Program's elements, such as the written audit procedures and quality assurance, are quite advanced when compared to practices in other companies. Two elements, including auditor independence and verification of the resolution of corrective actions, were identified during the ERM evaluation as areas still needing improvement. Management has been informed of these issues and is currently taking steps to respond to them.

Environmental Resources Management, Inc.

Example 2:
To the Management of WMX Technologies, Inc.

We have reviewed the appropriateness and quality of the environmental, health, and safety management systems in place during 1996 at WMX Technologies, Inc. and its principal operating subsidiaries.

Our review included an assessment of policies and procedures, organization, training programs, regulatory and management reporting systems, risk assessment and risk management programs, regulatory surveillance systems, audit programs and corrective action systems, and other environmental, health and safety management programs and systems in place throughout the Company. In conducting our review, we examined selected documents and interviewed key employees at the corporate and operating subsidiary levels, as well as at select operating facilities. We conducted our review relying upon our judgment based on our extensive consulting experience in this area as well as our familiarity with similar programs established by many other corporations.

In our opinion, WMX Technologies, Inc.'s corporate, subsidiary, and facility environmental management systems place it among the leaders of industry as a whole with regard to environmental management.

In our opinion, while WMX Technologies, Inc.'s corporate, subsidiary and facility management systems for health and safety are less mature and not as comprehensively implemented as those for environment, they are generally consistent with good practice found in industry worldwide.

Arthur D. Little, Inc.
December 1996

APPENDIX B
Two Examples of Environmental Verification Reports of Companies Based Outside the United States

Example 1:
Ernst & Young Report on Health, Safety and Environment (HSE) Facts 1996

To: The Board of Directors of the British Petroleum Company p.l.c.

We have carried out a review of the data and statements in HSE Facts 1996, the preparation of which is the responsibility of the directors. Our objective was to form an independent view on the statements made, and the processes by which the data was collected and collated. We were assisted by Environmental Resources Management Limited in respect of data collation processes.

This report has been prepared in accordance with the recommendations issued by the European Federation of Accountants (FEE) "Expert Statements on Environmental Reports."

Basis of our review
In accordance with your instructions, our review comprised the following:

1. Discussions with a selection of HSE executives throughout BP and a review of documents including Board and HSE Audit Committee minutes for 1996 to ensure that all significant HSE events have been considered for inclusion
2. A review of documents provided to us by management, and obtained in the public domain, to ensure that statements made are consistent with underlying information
3. A review of the methods used for data collection and collation at BP's head office, and at the exploration regional office in Aberdeen, UK, Alliance oil refinery in New Orleans, USA, and Wingles chemicals manufacturing site, France, to gain an understanding of data estimation and measurement methods used.

Recommendations
We recommend:

1. Improvements to data collection processes at sites, with focus on consistent application of measurement and estimation protocols to improve data accuracy, reliability and relevance further
2. A systematic review of the extent of externally reported data in relation to all significant HSE issues
3. Implementation of the audit protocol, developed during this year's review, across BP's sites.

Conclusions
On the basis of the review described above, we are pleased to find BP is continuing to enhance its collection and reporting of corporate environmental performance data as evidenced by a year-on-year improvement in the processes used to collect data in terms of its clarity and consistency of definitions. We believe that the statements made are supported by underlying information and that the reported data has been properly collated from the data provided by BP's operations.

Ernst & Young
London
9 May 1997

Example 2:
AUDITORS' REPORT

To the readers of the Progress Report on Environment, Health and Safety of Northern Telecom Limited:

We have examined the foregoing Progress Report on Environment, Health, and Safety of Northern Telecom Limited for the year ended December 31, 1996. This Report is the responsibility of

management of the Corporation. We have been engaged to review the process used by management in preparing this Report and evaluate whether the measurements of environmental, health and safety performance are compiled on a reasonable basis and are fairly presented.

We have examined the Corporation's environment, health and safety policies as set out herein and reviewed the approach used by management to measure progress toward conformance with these policies. Our review included interviews with management and staff and, on a test basis, analysis of data collected; review of environment, health and safety audit reports; observations of performance and examination of relevant documentation.

Based on the above procedures, in our opinion, management has adopted a reasonable approach to assessing the Corporation's environmental, health and safety performance for the year ended December 31, 1996, which is appropriately described in the Report, and the measurements of environmental, health and safety performance are fairly represented in all material respects.

Deloitte & Touche
Toronto, Canada
March 4, 1997

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