MASTER'S PROJECT PROPOSAL

Organizational Response to Environmental Liability Management
Following Passage of the 2002 Sarbanes-Oxley Act

by

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Duke Environmental Leadership Masters of Environmental Management

Proposal Approved By:

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Introduction

Today, the United States’ largest public corporations face a daunting challenge – managing their environmental liabilities. For many corporations, environmental liabilities are increasing. Simultaneously, uncertainties surrounding many of these liabilities are also increasing. The increases in uncertainty are due, in part, to more stringent (or more stringent interpretation of) state and federal regulations regarding relatively uncharted and highly contentious issues. Some of these issues include:

- natural resource damages – public compensation for injuries to natural resources (e.g., land, fish, wildlife, air, groundwater, surface water, drinking water) resulting from environmental spills or releases;
- risks to ecological receptors – the likelihood that adverse ecological effects may occur or are occurring as a result of exposure to one or more stressors (United States Environmental Protection Agency [USEPA], 1992);
- vapor intrusion – the migration of volatile constituents from the subsurface (e.g., soil, groundwater) into overlying buildings;
- climate change/global warming – the potential warming of the earth’s atmosphere as a result of greenhouse gas (e.g., carbon dioxide, nitrous oxide, methane) emissions; and
- risks associated with product lifecycles – potential environmental impacts associated with the flow and conversion of material and energy through all product stages (e.g., manufacture, transport, use, disposal).

Additionally, because it has become increasingly easy for plaintiffs’ attorneys to equate the existence of environmental contamination with liability, toxic tort lawsuits perhaps represent the biggest potential risk to corporations.
As corporations face mounting environmental liabilities, and liabilities that are potentially more difficult to quantify, they simultaneously confront more stringent requirements to accurately estimate and report future environmental risk facing their companies through the passage of the Sarbanes-Oxley Act (SOX). SOX was passed by Congress in 2002 following spectacular collapses of large public corporations such as Enron and WorldCom. These collapses caused investors to sustain substantial losses. To reduce the potential for similar investor losses from future corporate collapses, Congress passed SOX, the “most important piece of antifraud legislation enacted since the Great Depression” (Feldman, 2005). SOX requires public companies to adopt, implement, and certify to the existence of internal procedures that can adequately identify and accurately disclose material changes in financial conditions and results of company operations, including expectations of future performance (Bibler and Davis, 2003). While SOX does not directly address environmental liability reporting issues, it does regulate proper disclosure of financial risks, which include actual and contingent risks associated with environmental liabilities.

A search of SOX-related literature reveals that research has been done primarily in the following areas:

- policy evaluation (Romano, 2005);
- compliance costs (Romano, 2005), (Financial Executives International [FEI], 2004);
- market behavior in response to passage (Rezaee and Jain, 2005);
- equity (i.e., SOX impacts on small companies versus large companies) (Romano, 2005) (Linck et al., 2005); and
- attractiveness of privatization (or staying private) (Block, 2004) (Engel et al., 2004).

Although recent research and literature address many aspects of SOX, two areas remain relatively unexplored. First, it is uncertain whether, at the time of SOX enactment, corporations were structured or
organized in ways that allowed for efficient and accurate environmental liability estimation and reporting. Further, it is unknown whether corporations have reorganized or are currently reorganizing in response to the more stringent estimation and reporting requirements. Linck et al. (2005) examined changes in corporate board compositions in the post-SOX period and identified an increase in board independence (i.e., greater percentage of non-employee directors on the board, greater percentage of corporations with a majority of non-employee directors on the board, and greater percentage of corporations with a separate chief executive officer [CEO] and chairman of the board). Linck et al. (2005) also identified larger boards, more director turnover and replacement, and an increase in numbers of committees and committee meetings following the passage of SOX. However, similar information related to other (and equally important) components of corporations (e.g., finance departments, legal divisions, environmental management divisions) and to entire corporations is unavailable.

Second, minimal research has been conducted to evaluate the use of various SOX compliance methods. Corporations must decide whether potential environmental liabilities are material and subject to public disclosure. However, a one-size-fits-all approach to making these decisions does not exist. Corporations may decide to abide by two American Society of Testing and Materials (ASTM) standards established in 2002 (E-2137 and E2173) for estimating and disclosing environmental liabilities. Alternatively, companies can use any number of enterprise risk management frameworks, including The Committee of Sponsoring Organizations of the Treadway Commission’s (COSO’s) Enterprise Risk Management – Integrated Framework (COSO, 2004), internal corporate frameworks, or frameworks developed by private consultants.
Objectives

Given the limited information available regarding corporate response to environmental liability management following the passage of SOX, the objectives of this Master’s Project are threefold:

- to identify whether the United States’ largest public corporations (e.g., Fortune 500 companies) are restructuring or reorganizing in response to SOX and the requirement for more efficient and accurate environmental liability estimation and reporting;
- to identify how the United States’ largest public corporations (e.g., Fortune 500 companies) are restructuring or reorganizing, if at all, in response to SOX and the requirement for more efficient and accurate environmental liability estimation and reporting; and
- to identify methods the United States’ largest public corporations (e.g., Fortune 500 companies) are using to determine whether potential environmental liabilities are material and subject to public disclosure and to quantify environmental liabilities that are determined to be material and subject to public disclosure.

Methods

The following quantitative and qualitative research activities will be conducted to meet the objectives of this Master’s Project:

- a close-ended (i.e., quantitative) survey will be administered to multiple finance, legal, and environmental management personnel within approximately 50 Fortune 500 companies;
- survey results will be reviewed and, based on different reorganization strategies or different methods used to determine or quantify environmental liabilities, three or four companies will be selected for case studies; and
• open-ended (i.e., qualitative) interviews will be conducted with finance, legal, and environmental management personnel within companies selected for case studies.

Details regarding survey, survey data evaluation, and interview methods are provided below.

Survey

Approximately 50 Fortune 500 companies will be selected to participate in research activities. These companies will represent various sectors of industry (e.g., pharmaceutical, petroleum, chemical manufacturing, consumer goods manufacturing, entertainment) in various parts of the United States. Potential survey respondents (i.e., finance, legal, and environmental management personnel knowledgeable about SOX and their organizations’ responses to environmental liability management following the passage of SOX) will be identified by two methods. First, existing contacts will be used to identify potential survey respondents. Second, a “snowballing” technique (Kingdon, 2003) will be used (i.e., potential respondents will be asked to identify others within their organization or other organizations who are knowledge about SOX and their organizations’ responses to environmental liability management following the passage of SOX). At a minimum, two to three finance, legal, and environmental management personnel will be selected from each company to participate in the survey (for a minimum total of approximately 300 to 450 respondents).

A survey will be administered to each potential respondent via electronic mail. The survey will consist of specific, close-ended survey questions pertaining to the following subjects:

• organizational concern over more stringent (or more stringent interpretation of) state and federal regulations regarding relatively uncharted and highly contentious issues (e.g., natural resource
damages, risks to ecological receptors, vapor intrusion, climate change/global warming, risks associated with product lifecycles);

• organizational concern over SOX reporting requirements (e.g., actual and contingent risks associated with environmental liabilities);

• organization response (e.g., restructuring, reorganizing) to SOX and the requirement for more efficient and accurate environmental liability estimation and reporting;

• organizational use of methods to determine whether potential environmental liabilities are material and subject to public disclosure; and

• organizational use of methods to quantify environmental liabilities that are determined to be material and subject to public disclosure.

**Survey Data Evaluation**

Following receipt of survey responses (a 33% response will be considered acceptable), responses will be evaluated to identify:

• whether and how companies are restructuring or reorganizing in response to SOX and the requirement for more efficient and accurate environmental liability estimation and reporting;

• methods companies are using to determine whether potential environmental liabilities are material and subject to public disclosure; and

• methods to quantify environmental liabilities that are determined to be material and subject to public disclosure.
Three or four companies representing a diverse range of SOX-response activities (e.g., from no restructuring or reorganizing activity to sweeping restructuring or reorganizing) will be selected for further study.

Case Studies

Case studies will be performed on the three or four companies selected for further study. Face-to-face interviews will be conducted with one or more survey respondents from each of the three targeted corporate divisions (i.e., finance, legal, environmental management) within each company. Interviews will consist of a series of open-ended questions designed to obtain additional and specific information about corporate restructuring or reorganizing in response to SOX (e.g., organizational charts pre- and post-SOX) and methods used to identify and quantify environmental liabilities. Because the case study research will be qualitative in nature, the interview process will conform to accepted methodology, such as that described in Kingdon (2003). Attempts will be made to keep survey questions and methods consistent throughout the interview process; however, the order of questions, or subjects discussed, may vary slightly from interview to interview depending on the flow of the interview and area of expertise of the interviewee.

Expected Results

Information generated during research activities will include:

- a tabular summary of survey responses;
- pre- and post-SOX organizational charts (for corporations participating in case studies);
- a presentation of different methods used to identify and quantify corporate environmental liabilities.
The survey results and interview responses are anticipated to identify that following the passage of SOX, corporations are responding to environmental liability management issues in many different ways. It is anticipated that in response to the more stringent estimation and reporting requirements of SOX, Fortune 500 companies are conducting a wide range of restructuring and reorganizing activities – from no restructuring or reorganizing activity to sweeping restructuring or reorganizing activity. Additionally, it is expected that Fortune 500 companies are using a wide variety of methods to identify and quantify environmental liabilities.

**Masters Project Report**

The methods and results of this Master’s Project will be summarized in a written report. The intended audience consists of corporate finance, legal, and environmental management personnel interested in understanding how corporations are responding to environmental liability management following the passage of SOX.

**Source and Amount of Support**

Expenses related to this Master’s Project are expected to be minimal and related only to telephone charges and travel expenses. All expenses will be covered by the researcher.

**Faculty Advisors**

Duke University faculty who have agreed to serve as advisors on this Master’s Project are:

- Dr. Deborah Rigling Gallagher, Nicholas School of the Environment and Earth Sciences – Primary Advisor; and
- Dr. Norman Christensen, Nicholas School of the Environment and Earth Sciences.
This Master’s Project is a 4-credit project and will serve to meet the Master’s Project requirements of the Duke Environmental Leadership Masters of Environmental Management Program.

References


