

EXECUTIVE SUMMARY

A STUDY PERFORMED FOR
THE CALIFORNIA AIR RESOURCES BOARD

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ACCOUNTING, TAX AND
FINANCING ISSUES RELATED TO
AIR POLLUTION CONTROL INVESTMENTS

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Background

The purpose of this report is to serve as a comprehensive summary of the financial accounting, tax accounting and other financial issues to be considered in developing analyses of the financial impact of required corporate investments in pollution abatement equipment.

The California Air Resources Board (ARB) is charged with the task of reducing industrial, commercial, and individual pollution in order to attain air quality goals adopted by the state and national governments. A significant factor to be considered in evaluating alternative paths towards these air quality goals is the additional financial burden imposed on businesses by mandated emission control technologies.

Scope

The ARB requested that this research project be directed to the following three industries:

- Electric Utilities;
- Petroleum producers, refiners, and marketers; and
- Chemical manufacturing.

Generally, the accounting practices and tax regulations, relevant to analyzing the financial impact of an investment in pollution control equipment, do not vary widely among the above industries, with the clear exception being the electric utility industry. Separate discussions of the practices and regulations applicable to the electric utility industry are found throughout each subject area of the following report.

Although not a requirement under this contract, we deemed it appropriate to develop a computerized financial model demonstrating the suggested problem methodology. This financial model was used in preparing the hypothetical case studies found in the final chapter of this report.

Limitations

Analysts using the materials presented in this report should only attempt to apply them to the analysis of prospective pollution control investments. This limitation is due to numerous significant revisions in federal tax laws (ERTA, TEFRA), new statements from the Financial Accounting Standards Board, and changes in state and federal regulatory policies governing electric utilities. An attempt to apply the tax, accounting, and financial analyses presented in this report to the analysis of past investments could be misleading because of the significant changes referred to above. The analyst should be particularly careful to review later changes in regulatory agency rulings as these can materially affect the outcome of any analysis.

Recent Tax Legislation

Concurrent with completion of the drafting of this report, Congress enacted the Tax Equity and Responsibility Act of 1982 (TEFRA). This recent act provided several changes to existing tax law in areas directly relevant to this study. The provisions of this act applicable to this research study are described in an addendum to chapter two, the chapter dealing with specific tax issues.

Methodology

The report body, following, consists of five chapters dealing with the detail specific considerations relevant to a financial analysis of an investment in pollution control technology. These chapters, in order of presentation, deal with:

- Cost of capital considerations,
- Tax issues and considerations,
- Accounting and financial reporting practices followed in the chemical and petroleum industry,
- Accounting, financial reporting and regulatory issues applicable to the regulated electric utility industry and
- Two hypothetical case studies demonstrating suggested problem methodology.

The following discussion provides a summary of specific chapter content and the research methodology employed for each topic area.

Cost of Capital - In terms of identifying and listing the traditional and academic approaches for calculating the cost of capital, a number of well recognized managerial finance texts were researched. Those most heavily relied upon are listed in the footnotes to the cost of capital report section. General issues and research findings were confirmed with Price Waterhouse technical specialists.

Historic industry capital structures were developed based upon Federal Trade Commission reports. Representative current costs of capital for selected industries were developed based upon published data using the methodology presented in this report. A summary of relevant variables which could in the future impact a company's capital structure, and industry's cost of capital, was developed based on cited current literature. Possible relevant methods of financing the cost of compliance with pollution regulations has been presented, the source of which is cited current literature.

The chapter contains a comprehensive guide containing narratives and illustrations of the theoretical approaches to determining the cost of capital. Special considerations concerning the appropriate measure of the cost of capital for regulated electric utilities are discussed in Appendix II of Chapter I.

Tax Considerations - This report section contains a narrative description of the relevant Internal Revenue code and California Franchise Tax Board regulations, rulings and interpretations. Our research indicates that most of the relevant tax rules and regulations are similarly applicable to the chemical and petroleum refining industries. The regulated electric utility industry has many tax rules and regulations specific to that industry. These considerations have been separately identified in this report. The few significant Federal/California tax treatment differences have been highlighted. The chapter contains specific examples illustrating the impact of the applicable tax considerations.

Accounting Practices for the Selected Industries - We have utilized Price Waterhouse library information resources, and other sources as necessary, to gather accounting pronouncements, practice aides, research papers, and other relevant documents. These information sources included texts; trade publications; research studies; accounting practice surveys; and promulgations of the Financial Accounting Standards Board, the American Institute of Certified Public Accountants, the Securities and Exchange

Commission, and the Federal Energy Regulatory Commission. In addition, Price Waterhouse industry specialists for the selected industries have reviewed these practice areas and research sources.

Hypothetical Case Study - Although not a contract requirement, two hypothetical case studies were developed for the purpose of illustrating:

- The general approach for analyzing the financial impact of capital investments in pollution control equipment, and
- The contrast in perspective of such an analysis from the viewpoint of:
 - a non-regulated corporation,
 - a regulated electric utility,
 - the rate-paying consumers.

Another benefit of these case studies is that the various accounting, tax and other applicable financial considerations are presented in relative perspective. The case studies were developed utilizing "Visicalc" on an IBM personal micro-computer. The recent TEFRA tax considerations have not been incorporated in the hypothetical cases. The case studies are not designed to provide a detailed analysis of each and every consideration in such an analysis, but rather to provide a conceptual overview of suggested problem methodology. For the detail specific considerations required in such an analysis, the reader is directed to the various specific chapters of this report.

Recommendations

The following recommendations are a result of our observations of the technical on-going requirements of the Air Resources Board Economic and Research staff:

- o The Air Resources Board should make provision to periodically review and update this research study. This is necessary because of the significant changes which are introduced by changes in tax laws and regulatory agency policies.

- o The Air Resources Board should consider implementing a microcomputer based financial model capability. A financial model encompassing all of the aspects outlined in this study is very feasible.

- o The Air Resources Board staff should make use of outside expert financial consultants periodically to assist in board hearings and help accumulate relevant information.

