
TABLE OF CONTENTS

| | | |
|--------------------------------------|--|-----------|
| <i>FOREWARD</i> | <i>iii</i> | |
| <i>SUMMARY AND CONCLUSIONS</i> | <i>v</i> | |
| <i>LIST OF TABLES</i> | <i>xv</i> | |
| <i>LIST OF FIGURES</i> | <i>xvii</i> | |
| | | |
| CHAPTER 1 | <i>INTRODUCTION</i> | 1 |
| | Introduction | 1 |
| | Definitions | 4 |
| | Municipal Waste Combustion (MWC) Facility | 4 |
| | Mass Burn | 4 |
| | Modular Incineration | 7 |
| | Refuse-Derived Fuel | 8 |
| | New Technologies | 8 |
| | | |
| CHAPTER 2 | <i>STATUS OF FACILITIES</i> | 11 |
| | Operational and Planned Facilities | 11 |
| | Plant Start-ups and Closures By Technology | 12 |
| | Plant Expansions and Planned Projects | 16 |
| | Operating Projects which are Expanding | 16 |
| | Planned New Projects | 17 |
| | Location of Projects | 17 |
| | Regional Distribution | 17 |
| | State Distribution | 18 |
| | | |
| CHAPTER 3 | <i>TECHNICAL DATA</i> | 21 |
| | Types of Technology | 21 |
| | Tons per Day: Design and Actual | 22 |
| | Combustion and Boiler Characteristics | 23 |
| | Boiler Configuration | 23 |
| | Heating Value and Steam Generation | 24 |
| | Ash Residue Disposal Fees..... | 24 |
| | Ash Residue Disposal and Beneficial Use | 26 |
| | Ash Residue Disposal Fees | 27 |
| | Air Pollution Control Systems | 27 |

| | | |
|------------------|--|-----------|
| CHAPTER 4 | <i>ENERGY PRODUCTION, CUSTOMERS AND CONTRACTS</i> | 37 |
| | Energy Production | 37 |
| | Types of Energy Produced | 37 |
| | Changes in Energy Production Over Time | 37 |
| | Amounts of Energy Produced | 38 |
| | Energy Customers | 41 |
| | Energy Pricing | 44 |
| | Electricity Pricing Over Time | 46 |
| | Energy Contracts | 46 |
| | Revenue Sharing | 49 |
| | | |
| CHAPTER 5 | <i>OWNERS AND OPERATORS</i> | 51 |
| | Owners and Operators By Sector | 51 |
| | Owner and Operators Over Time | 52 |
| | The Relationship between Owner and Operator | 52 |
| | Procurement Arrangements | 54 |
| | Operating Contracts | 54 |
| | Market Share | 55 |
| | | |
| CHAPTER 6 | <i>OTHER OPERATING CHARACTERISTICS</i> | 57 |
| | Employment | 57 |
| | Materials Recycling | 58 |
| | | |
| CHAPTER 7 | <i>WASTE STREAM FLOWS AND GUARANTEES</i> | 61 |
| | Waste Guarantees | 61 |
| | Current Use of Waste Guarantees | 62 |
| | Changes in Types of Waste Guarantees Over Time | 64 |
| | Waste Contracts | 65 |
| | Special Waste | 66 |
| | Waste Catchment Areas | 66 |
| | Population Served | 68 |
| | | |
| CHAPTER 8 | <i>CAPITAL COSTS AND FINANCING</i> | 69 |
| | Original Capital Costs | 69 |
| | Additional Capital Investments | 71 |
| | Chronology and Types of Additional Investment | 73 |
| | Sources of Capital Funds | 76 |

| | | |
|------------------|--|------------|
| CHAPTER 9 | <i>OPERATIONS COSTS, TIP FEES AND OTHER REVENUE</i> | 79 |
| | Operation and Maintenance Costs | 79 |
| | Tipping Fees and Other Revenues | 81 |
| | Tipping Fee Structure | 81 |
| | Tipping Fee By Region | 81 |
| | Tip Fees By Technology Type | 83 |
| | Tip Fees Over Time | 83 |
| | Tip Fee Subsidies | 85 |
| | Revenues, Expenditures and Tip Fees | 85 |
| | <i>SELECTED REFERENCES</i> | 89 |
| | <i>TEXT INDEX</i> | 93 |
| | <i>THE DIRECTORY</i> | 97 |
| | <i>DIRECTORY INDEX OF FACILITIES</i> | 379 |
| | <i>DIRECTORY INDEX OF OPERATORS</i> | 383 |

TABLE OF CONTENTS
