

Connecticut Resources Recovery Authority

Transition Plan

Prepared by:

Connecticut Resources Recovery Authority



Response to Section 9 of Public Act No. 13-285
An Act Concerning Recycling And Jobs

Submitted to:

Dannel P. Malloy
Governor of Connecticut

Environment Committee of the General Assembly

Energy & Technology Committee of the General Assembly

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- H. New and Emerging Technology Assessment
- I. Cost Estimate for Dismantling the South Meadows Facility
- J. Valuation Analysis of CRRA’s Jet Turbine Facility
- K. Statutory Analysis of Dissolution and Sale of CRRA
- L. CRRA Landfill Property, Infrastructure, and Operational Information
- M. Summary of Public Comments
- N. La Capra Associates Summary Letter and Qualifications

LIST OF ACRONYMS

AD – Anaerobic Digestion
BOD – CRRA Board of Directors
C&D – Construction and Demolition Debris
CEFIA – Clean Energy Finance & Investment Authority
CGS – Connecticut General Statutes
CRRA – Connecticut Resources Recovery Authority
CTDEEP– Connecticut Department of Environmental Protection
DECD – Department of Economic and Community Development
EGF – Electric Generating Facility
FCA – Forward Capacity Auctions
FCM – Forward Capacity Market
FY – Fiscal Year
ISO-NE – ISO New England Inc.
MDC – Metropolitan District Commission
MRRRA – Municipal Resource Recovery Authorities
MSW – Municipal Solid Waste
PBF – Power Block Facility
PURA – Public Utilities Regulatory Authority
RCRA – Resource Conservation and Recovery Act
RDF – Refuse-Derived Fuel
RRC – Regional Recycling Center
RRF – Resource Recovery Facility
SCRF – Special Capital Reserve Fund
SCRRRA – Southeastern Connecticut Regional Resources Recovery Authority
SWAB – Solid Waste Advisory Board
SWDA – Solid Waste Disposal Agreement
SWEROC – Southwest Connecticut Regional Recycling Operating Committee
SWMP – Solid Waste Management Plan
T&D – Transfer and Disposal
USEPA – United States Environmental Protection Agency
WPF – Waste Processing Facility

1. Executive Summary

The Connecticut Resources Recovery Authority (CRRA or the “Authority”) has been directed to prepare and submit this Transition Plan by Section 9 of Public Act 13-285 (the “Act”). This Transition Plan, created in consultation with the Resources Recovery Task Force, presents a sustainable business model for improving long-term financial stability and discusses consequences of the dissolution of CRRA and disposition of its assets as specifically required in the Act. The Transition Plan contains a number of specific implementation steps that will enable the Authority to maintain a sustainable and continuing business model for executing CRRA’s mission in support of the State Solid Waste Management Plan (SWMP).

Sustainability in this Transition Plan provides for long-term continued operation of the CRRA facilities, including the South Meadows Resource Recovery Facility (RRF), and provides for stability for the Authority and the municipalities, businesses and residents that depend on it. CRRA’s plan supports the current state policy that specifies:

- Combustion of solid waste for energy recovery is preferable to landfilling;
- Export of solid waste to out-of-state landfills should be avoided;
- Connecticut should maintain an in-state solid waste infrastructure that minimizes dependency on out-of-state solid waste management solutions; and
- Connecticut should increase diversion of recyclables.

CRRA’s plan, detailed in a 10-year financial forecast, is based on utilization of CRRA’s existing solid waste infrastructure and assets. This 10-year Transition Plan will thus allow for a smooth transition to future options for environmentally sound disposal of waste materials.

This Transition Plan enables CRRA to continue to:

| Service | Benefit |
|---|--|
| <ul style="list-style-type: none"> • Sustain existing service capabilities to municipalities and commercial patrons | <ul style="list-style-type: none"> • Based on current assumptions, no subsidy required for a minimum of 10 years through 2024 |
| <ul style="list-style-type: none"> • Provide a competitive balance in the solid waste disposal market | <ul style="list-style-type: none"> • Stabilizes disposal market pricing through publicly owned/managed alternative for municipalities |
| <ul style="list-style-type: none"> • Provide continued generation of large-scale, base load, renewable energy in central Connecticut | <ul style="list-style-type: none"> • Avoids need to ship 700,000 tons of waste to out-of-state facilities (landfills and/or waste-to-energy plants) |
| <ul style="list-style-type: none"> • Maintain the Authority’s publicly owned and managed recycling infrastructure and diversion activities | <ul style="list-style-type: none"> • Critical to the recycling programs of rural and smaller municipalities |
| <ul style="list-style-type: none"> • Provide for development of new technology and capacity | <ul style="list-style-type: none"> • Needed for improved diversion and disposal and the advancement of State waste management policy |
| <ul style="list-style-type: none"> • Provide a reliable, cost-efficient and environmentally superior solid waste disposal option | <ul style="list-style-type: none"> • Continues CRRA’s mission to support the State Solid Waste Management Plan |

It is anticipated there will be increasing and laudable emphasis to move Connecticut toward Zero Waste (100 percent diversion/recycling and reuse) in the coming decade. The value of CRRA to the state and its solid waste policy success must be understood and appreciated. Sustaining CRRA’s operations for 10 years will provide sufficient time and opportunity for state policy makers to consider policy initiatives that will position the state to develop alternative models based on next-generation technologies and systems or maintain commitment to the present policy. The Transition Plan includes a milestone for implementation of the next-generation strategy or technology and allows it to be fully functional within the 10-year transition period. By 2017, CRRA’s ultimate goal is to work in conjunction with the Connecticut Department of Energy & Environmental Protection (CT DEEP) to establish a statewide sustainability plan for the next 50 years.

1.1 Reaching Fiscal Sustainability

CRRA’s South Meadows Facility currently faces a projected financial gap (see Figure 1-1) that must be eliminated to allow the Authority to achieve fiscal sustainability. The bottom dashed line in Figure 1-1 shows the municipal service agreement (MSA) opt-out tipping fee for municipalities. If the tipping fee exceeds that level, the municipalities may opt out of their MSA with one year’s notice. Net Cost pricing, shown in the dotted blue line, is CRRA’s projection of the tipping fee required to produce revenues that equal expenses before gap mitigation options are implemented.

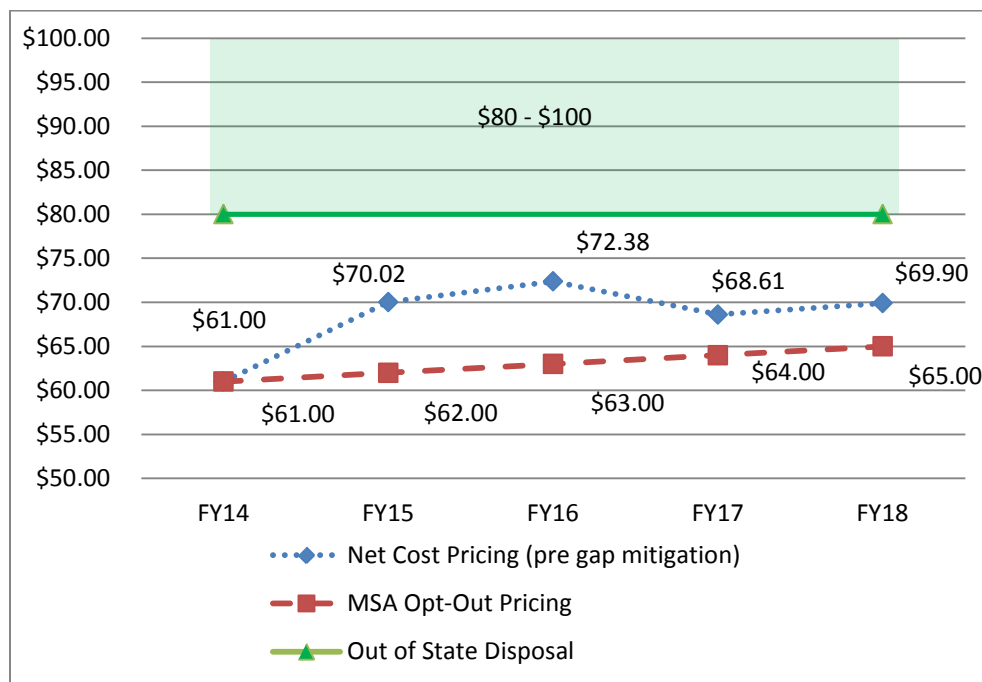


Figure 1-1
Authority South Meadows Resource Recovery Facility Tier 1 Long-Term Pricing (\$/ton)

The difference between the revenues generated at the MSA opt-out decision point price and the Net Cost to operate the South Meadows Facility ranges from approximately \$2 million to \$4 million per year, and totals approximately \$12.6 million over a five-year period¹. The shaded area over \$80 per ton represents the cost of out-of-state disposal based on market research², the range expected to result if the South Meadows Facility were closed and the tonnages it receives were required to be transferred to out-of-state landfills from transfer locations either at South Meadows, through Authority transfer stations or other privately-developed transfer stations.

As the current waste-to-energy (WTE) capacity in Connecticut will be necessary to serve the needs of the state for at least another decade, it is clear that the disposal capacity provided by the South Meadows facility is required. CRRA's Transition Plan, in keeping with the policy direction described in the SWMP, has focused its sustainable business model on maintaining the capacity provided by the South Meadows Facility.

CRRA's 10-year forecast, shown in Figure 1-2, is designed to fully mitigate the current deficit gaps using identified cost savings measures and revenue development opportunities. It includes a \$17.5 million bond issue, backed by the State's Special Capital Reserve Fund (SCRF), issued for a term of 10 years at 3.5% interest with annual debt service of \$2.1 million. The bond issue, together with existing reserves and reduced annual capital fund contribution requirements, will fully fund all major maintenance and capital requirements, improving the long-term financial stability of CRRA.

¹ The \$12.6 million is net of the approximate \$2.5 million annual subsidy transferred from the Property Division in line with the BOD guidance in setting the FY 2014 budget.

² Transfer and disposal costs are estimated at \$70 to \$90 per ton for access to out of state disposal locations that can accept significant tonnages (250,000 to 500,000 tons per year) under a long-term arrangement; an additional \$10 per ton is estimated to cover transfer station operations and administration.

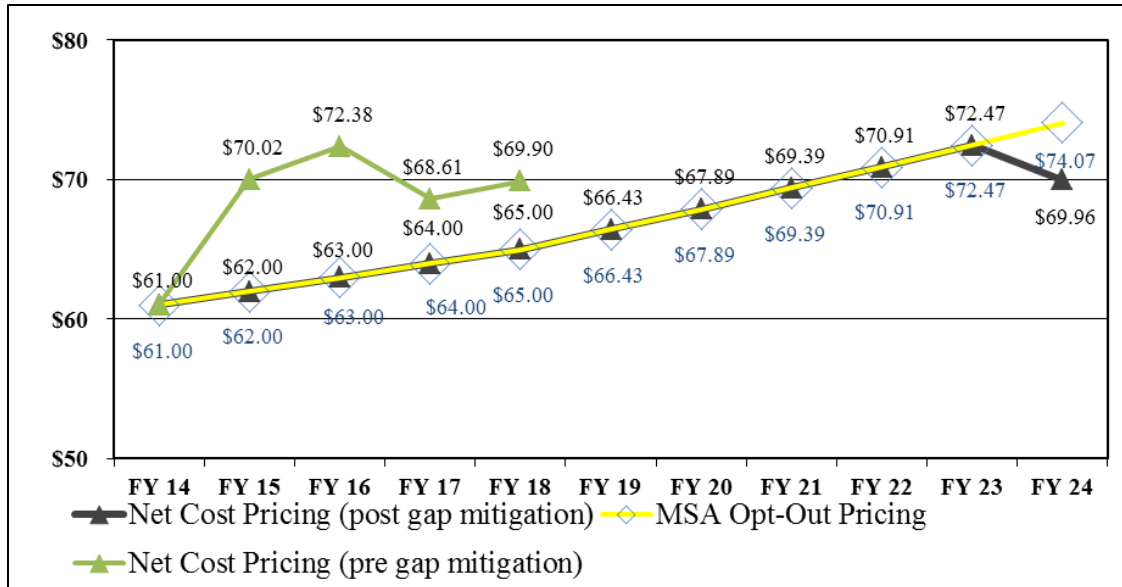


Figure 1-2
10-Year Forecast Chart

Budget Assumptions in addition to the options identified above are presented in Exhibit C

The finances of the South Meadows Facility are sensitive to small changes in the price of power sold. The electric power sales rate used in the plan is based on a forecast provided by CRRA’s power market consultant, La Capra Associates, Inc. La Capra is a recognized and well-regarded full service independent energy consulting firm with 30 years of experience consulting for clients across North America. Its clients include power generators, utilities, regulators and environmental advocates. La Capra provides power market evaluation, analysis and forecasting for New England power market participants. A letter summarizing La Capra’s forecast of the power market, as well as the firm’s experience is provided as Exhibit N.

La Capra’s analysis is based on the current forward market, which reflects the prices of power and fuels, capacity constraints, congestion, development of planned new generation capacity, planned retirement of existing generation capacity and recent bilateral sales. Its estimate for electric power sales rate is higher than that assumed by CohnReznick in its Section 7 audit report, which was based on a simple two-percent escalator from a historical low rate.

In order to meet the charge of Public Act 13-285, CRRA examined all possible options to secure sustainability and mitigate the projected revenue gap. The CRRA Board of Directors (BOD or the “Board”) will determine which of these options it ultimately intends to apply in order to mitigate the gap. Those that are currently included in CRRA’s 10-year forecast are identified.

Options under the Board's control:

Options selected in the preliminary 10-year forecast (Figure 1-2 above)

- Reduction of the City of Hartford payment in lieu of taxes (PILOT) to \$1.5 million per year (\$700,000).
- Application of FY 2013 surplus (\$988,000).
- CRRA bonding initiative (\$17.5 million).
- Additional savings in G&A-salary/compensation (\$1.5 million). Current salaries will be frozen through FY 2018. (The Board Committee charged with oversight of human resources matters will also be undertaking a compensation and staffing review in conjunction with management to assure parity for the Authority with similar operations.)
- A transfer of \$3.0 million from other CRRA reserves and or operating accounts to the Capital Expenditure Reserve in FY 2015.
- Expense reductions in operations of a minimum \$200,000 per fiscal operating year first applied in FY15 and continued for 10 years. This figure could be significantly increased as a result of reviews that will be scheduled in the coming months.

Options not selected for the 10-year forecast, but available to the Board

- Eliminate education expenditures (\$97,000 per year).
- Sale of unused property (up to \$7.3 million).
- Eliminate recycling rebates (\$420,000 per year; would result in loss of recyclables tonnage, reducing revenues and jeopardizing recycling program).
- Additional program reduction (recycling and contract enforcement at \$175,000 per year).
- Increase in tipping fees charged to MSA towns (\$442,000 per one-dollar increase).
- Additional operational, personnel and salary cost reductions, to be determined.

Options outside of Board control (CRRA's mitigation plan is not dependent on any of these options):

- Asserting CRRA's tax/assessment exemption to eliminate the Solid Waste Assessment (also called the "dioxin tax"); this is approximately \$1.1 million per year.
- Direct State support of turbine overhaul costs through loans or bonding \$7.4 million.
- An un-forecasted, positive change in the value of power sold. A one-cent increase in the price of power sold, or the price of the renewable energy credits (RECs) generated, results in additional revenue, \$4.1 million annually.
- Bi-lateral contracts for power sales resulting in revenue premiums.
- Changes in law to allow CRRA to offer firm multi-year pricing to municipalities (\$150,000/year).

Although CRRA's 10-year forecast provides sustainable operations based on utilization of gap mitigation options under the control of its Board, it is important to emphasize that the most advantageous gap mitigation option is enhancing the value of renewable energy credits. The current value of Class I RECs is approximately \$0.045 per kWh. If electricity generated by RRFs in the state were eligible to generate RECs with higher value than their current Class II RECs,

significant reduction in CRRA’s net cost of operations would result. Assuming an added REC value of only \$0.0225 per kWh, one-half the current Class I REC price, the resultant Net Cost pricing is shown as the solid green line below in Figure 1-3. This option would represent a policy modification and would require legislation to implement.

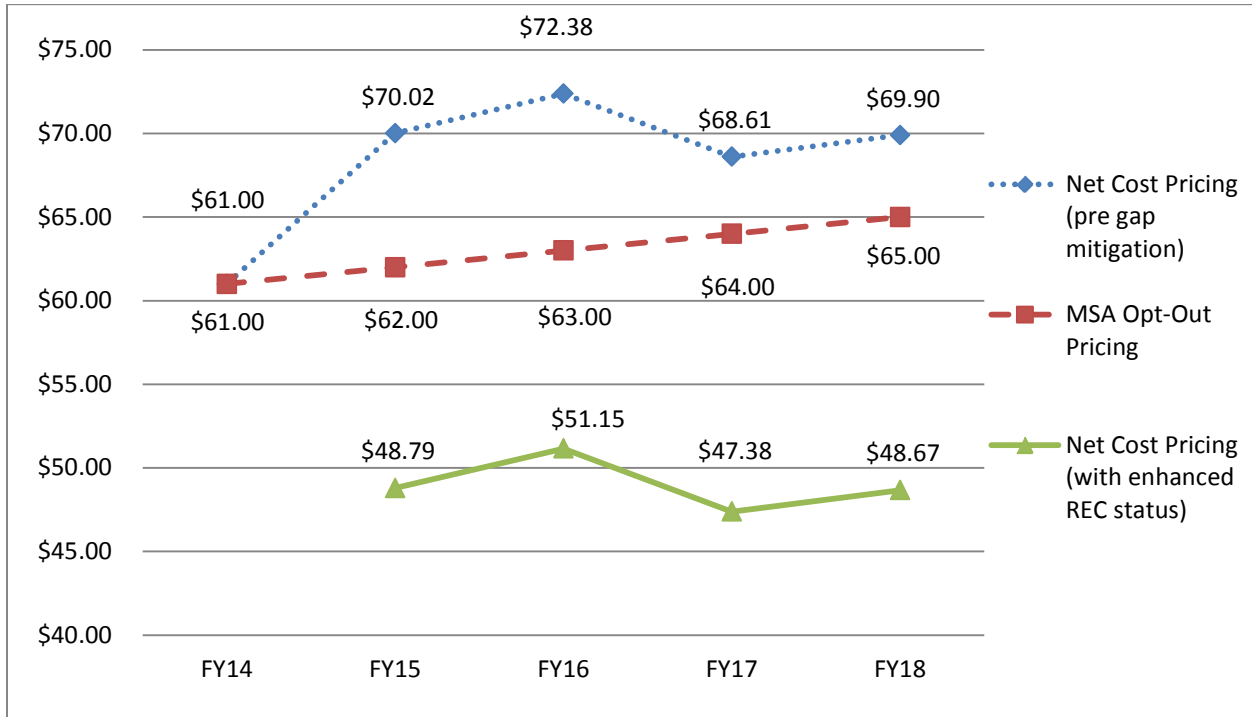


Figure 1-3
Authority South Meadows Resource Recovery Facility Tier 1 Long-Term Pricing
Reflecting Enhanced REC Status (\$/ton)

1.2 Dissolution Impact

In this Transition Plan, CRRA evaluated several different business model scenarios under which the South Meadows Facility is either sold or closed and CRRA is dissolved.

In particular, CRRA evaluated the scenario of selling the South Meadows Facility, the Hartford Recycling Facility and its transfer stations to a private operator(s), who would continue to operate the facilities. In this scenario, CRRA would also sell its other assets.

There may be limited financial benefits to the dissolution of CRRA under this scenario. Assuming the private owner did not change operations at South Meadows, there would be minimal disruption to established patterns of in-state MSW disposal, and electric power generation from the facility would continue to supply the state. If assets are sold, proceeds from the sale of the South Meadows Facility site, if any, and from other assets would be available to offset CRRA liabilities and claims. Any proceeds found to be surplus to the liabilities and claims would become the property of the State of Connecticut. The purchase price for the South

Meadows Facility may not be a positive number, and if positive, may not be sufficient to offset the liabilities and claims associated with the facility. Exhibits I, J and K provide information regarding the sale of the South Meadows Facility and dissolution of the Authority.

However, for the purchase of the South Meadows Facility to be attractive to a private party, resulting tipping fees could be similar to the forecasted market rate for out-of-state disposal (\$80-\$100 per ton).

CRRA has identified a number of consequences that would necessarily follow if the Authority were to be dissolved.

- Under its authorizing legislation, CRRA cannot be dissolved without new legislation. This new legislation must recognize and provide for the rights of CRRA's bondholders and other contract counterparties.
- CRRA has issued four series of conduit bonds for the Southeast Project that remain outstanding, totaling \$60,600,000 as of June 30, 2013.
- CRRA has municipal services agreements (contracts) with 51 towns that provide that those towns receive disposal services at the South Meadows Facility, at the cost of those services. The contracts expire at a variety of dates through 2027. The rights of those towns would need to be protected.
- Significant legal, solid waste, environmental and policy expertise and time would be required to prepare various bid specs and RFPs to sell CRRA assets and address all of the legal and environmental issues relating to any property transfers and contractual terminations.
- CRRA is party to a variety of litigation and claims that would need to be resolved prior to dissolution.
- A number of state statutes and regulations govern CRRA, and the dissolution of CRRA would require revision of some of these.
- If CRRA were to be dissolved, its responsibilities regarding the SWMP would likely be transferred to another state agency or quasi-public authority.

Additional consequences that would necessarily follow if the South Meadows Facility were to close include the following:

- The cost of disposal would increase throughout the state, as the vast majority of the waste from South Meadows would have to be shipped out of state, resulting in over 64,000 truck trips to and from New York, Massachusetts and Pennsylvania each year.
- The truck trips and deposition of solid waste in landfills would have undesirable environmental effects, increasing greenhouse gas emissions from current levels, and reducing the amount of MSW that is managed in accordance with the solid waste management hierarchy. This would be a major step backward for the state from an environmental perspective.
- The loss of up to 150 Connecticut jobs.
- Approximately \$50 million currently spent in-state would be spent transporting and disposing of MSW at out-of-state landfills.
- Connecticut consumers would be exposed to the risk of additional disposal costs caused by other states imposing extra fees on waste disposal in landfills.

1.3 Recommendation: Implement the Long-Term Transition Plan

CRRA’s primary recommendation for improving the long-term stability of the Authority is to proceed to implement the mitigation plan as described in the 10-year forecast presented in Section 1.1 above. However, the Authority has limited funds available to support non-core activities beyond maintaining the facility and servicing the customer base. Therefore, continuation of SWMP support activities, such as education and new technology development, will require additional funding either from the State or through bonding.

In support of these objectives, the Board is considering conceptual legislative recommendations in the context of supporting these aspects of the Transition Plan. Presented in Table 1-1 are preliminary legislative initiatives that merit consideration. Specific additional recommendations may be forthcoming from the Authority, subsequent to issuance of the Section 8 Resources Recovery Task Force report, and prior to the 2014 legislative session.

**Table 1-1
Legislative Initiatives Under Consideration by CRRA**

| |
|--|
| A. Include all MSW and Construction and Demolition (C&D) waste generated in the State (that is not recycled) in the Solid Waste Assessment Fee (also known as the “dioxin tax”), including those tons presently exported out of state. This will eliminate the current \$1.50 per ton incentive that serves to encourage landfilling of solid waste. |
| B. Provide for improved revenue for operating facilities and recognition of the benefit of renewable energy from waste by allowing RRFs to be granted enhanced Class II renewable credits for the portion of their generation that is created by combusting the biogenic carbon fraction of waste. |
| C. Require Connecticut power suppliers to source their purchases of Class II renewable credits in Connecticut. |
| D. Adjust CRRA statutory authority to enable CRRA to site a C&D landfill with associated recycling and recovery systems, or an organic waste facility, similar to CRRA’s present authority for siting ash residue landfills. |
| E. Elimination of redundant and/or obsolete statutory reporting and procedural requirements of CRRA. |

Presented in Table 1-2 is a year-by-year summary of activities that the Authority can follow to implement the Transition Plan. In Table 1-2, alternative technologies are assumed to be ready to advance in 2016 for providing commercial capacity in 2020. The Authority, operating in the Transition Plan, does not have the financial resources to independently implement or accomplish the goals of the SWMP. Absent sufficient funding for CRRA, the state needs to consider alternative means for implementing the SWMP.

**Table 1-2
Key Transition Plan Activities and Schedule for First Five Years**

| Year | Description | Involved Parties |
|------|--|--|
| 2014 | <ul style="list-style-type: none"> • Authority will institute an extensive customer service and satisfaction initiative to identify areas for CRRA to expand business opportunity and improve customer satisfaction, retention and growth. • Authority institutes employee wage and salary freezes effective FY2014 through FY2018. • Authority re-evaluates and adjusts as appropriate the Authority’s staffing and salary levels. • BOD provides direction on filling South Meadows tipping fee gap for FY 2015 including bonding initiative, implementation of cost savings measures, and revenue enhancements. • Authority requests additional legislative support for the Transition Plan • Authority monitors alternative technologies | <ul style="list-style-type: none"> • Authority • Authority • Authority • Authority • Authority, Governor’s Office, CT DEEP and Legislature • Authority |
| 2015 | <ul style="list-style-type: none"> • Develop Procurement strategy for regional Anaerobic Digestion (AD) and/or C&D materials recovery and recycling facilities. • Authority monitors alternative technologies | <ul style="list-style-type: none"> • Authority • Authority |
| 2016 | <ul style="list-style-type: none"> • Authority begins implementing regional AD and/or C&D materials recovery, and recycling facilities | <ul style="list-style-type: none"> • Authority |
| 2017 | <ul style="list-style-type: none"> • Authority begins implementing replacement disposal capacity for South Meadows as capacity needs allow • Authority is in consultation with CT DEEP to develop a long-term strategy for statewide sustainability. | <ul style="list-style-type: none"> • Authority • Authority and CT DEEP |
| 2018 | <ul style="list-style-type: none"> • Authority monitors alternative technologies and continues implementing replacement disposal capacity for South Meadows | <ul style="list-style-type: none"> • Authority |

2. Introduction

2.1 CRRA Purpose and Capabilities

CRRA was created by the state of Connecticut over thirty years ago to implement a comprehensive plan for the management of solid waste in the state. CRRA achieved this goal through the development of a variety of facilities for disposal, transfer and recycling of waste. In 2010, facilities developed by CRRA disposed approximately 82 percent of the state's waste. CRRA has managed the development of four resource recovery facilities. One of the facilities, the South Meadows Facility, is publicly owned. Due to the substantial financial federal tax benefits available at the time, the remaining three units were developed as privately owned facilities. To ensure that the public interest was secured, these facilities were governed by "service agreements" with the vendors that supplied them. These service agreements, among other things, provided for tipping fees that were based on the cost of service of the facilities, plus a "reasonable" profit for the vendor. As these service agreements expired over the past few years, public control over the tipping fees charged by the vendors was lost, and the vendors/owners may now charge whatever the market will bear. South Meadows, by virtue of its continued public ownership, continues to charge tipping fees based on its cost of service and acts as a moderating force on the level of Connecticut tipping fees.

CRRA implemented its first of two materials recycling facilities to receive, process, and sell recyclable products back to industry for re-manufacturing. With its recycling services, CRRA has also been a source of information and education for its municipal partners and the public at large, providing electronic, written, and in-person education services about recycling, renewable energy and energy conservation for residents in the state. Under current state law, CRRA is responsible for the implementation of the operational aspect of the SWMP, specifically the provision of waste management services and to effect resources recovery and recycling through a network of facilities that reclaim the material or energy values from solid wastes.

Today, CRRA manages disposal for residents and businesses across the state. At the South Meadows Facility, CRRA disposes of approximately 720,000 tons per year of municipal solid waste (MSW) at contractual tipping fees in the range of \$45-\$65 per ton to 51 municipalities and dozens of private haulers operating in these and many other municipalities in Connecticut (approximately 33 percent of the state's MSW³). That MSW is pre-cycled and processed reliably at the Authority's South Meadows Facility and converted into approximately 417,000,000-kilowatt hours (kWh) per year of reliable electric power. CRRA also recycles approximately 15,000 tons per year of metals at the South Meadows Facility; recycles approximately 45,000 tons per year of co-mingled containers and paper at its Hartford Recycling Facility; provides funding and administration for the closure and post closure of six landfills; disposal and or administrative services to additional municipal and haulers customers; and energy, recycling and environmental education services to the public.

³ All disposal figures are from the 2010 records of the State Department of Energy and Environmental Protection

2.2 Connecticut's Disposal Market Today

As mentioned earlier, CRRA provides directly for the disposal of 33 percent of the state's MSW at its cost of operations, unlike private operators who charge what the market will bear. Because CRRA has so much capacity and operates at cost, a competitive pricing limit is established on what the private operators may charge in the state. Between them, two other private facility operators, Covanta and Wheelabrator, provide almost 60 percent of the MSW disposal capacity in the state. The current competition for these privately owned facilities comes from two entities: the publicly owned resources recovery capacity in Connecticut, and the privately owned landfills outside of Connecticut that were built as 'megafills' to take waste at market rates from distant sources. In the absence of CRRA, the remaining disposal capacity operators would be able to increase the price of their services to the cost of transporting and disposing waste out of state, a cost that the Authority's consultants estimate to be in the range of \$80-\$100 per ton⁴. This would create a non-transparent situation for Connecticut municipalities, attempting to determine what their long-term costs for waste disposal will be in a privately dominated disposal marketplace.

2.3 Purpose and Statutory Requirement of Transition Plan

Under current state law, CRRA is responsible for the implementation of the operational aspect of the SWMP; specifically, the Solid Waste Management System, which is that portion of the SWMP specifically designed to deal with the provision of waste management services and to effect resources recovery and recycling by means of a network of facilities that reclaim either the material or energy values from solid wastes.

CRRA does not receive direct state funding, but rather, it relies solely on revenues from operation of its facilities, through net revenue from tip fees provided by participating municipalities and from electricity sold into the grid. At the time of its founding, CRRA's role was primarily focused on development of resources and capacity. Over the years, as several of CRRA's assets have shifted to private ownership, revenue options for CRRA have been reduced. A declining number of Connecticut municipalities are paying for solid waste services through CRRA.

In addition to the decline in the number of municipalities contracting with CRRA, the price of wholesale power in the New England area has fallen significantly during the past several years. This has affected CRRA because a significant percentage of its revenue comes from the sale of electricity generated at the South Meadows Facility. For example, in January 2012 CRRA auctioned its power for its FY 2013 (July 2012 through June 2013), and received a high bid of only \$0.0351 per kWh (annual average). Although wholesale electric prices have recovered somewhat since early 2012, this market condition is not expected to improve significantly in the near term.

⁴ See Exhibit E, Out-of-State Market Assessment, which concludes current out-of-state transportation and disposal prices range from \$70 to \$90/ton, plus an estimated \$10/ton transfer and loading costs.

The state has determined a Transition Plan is desirable to evaluate the functions of CRRA and its role in implementing the SWMP, with time and consideration given to the operational requirements of the regional transfer stations, landfills, and other functional roles. Connecticut Public Act No. 13-285: An Act Concerning Recycling and Jobs (provided as Exhibit A) requires CRRA to prepare this Transition Plan and specifies its contents.

CRRA has evaluated ways and means to adopt processes and characteristics that will allow CRRA to best meet the state's solid waste needs under current economic circumstances. The goal of this Transition Plan is to analyze the role of CRRA with regard to its governance, responsibilities, and operations; provide recommendations for improvement; and present a vision for CRRA's future. The Transition Plan offers evaluation of several potential options (as defined by the state), different from the existing model, for consideration for a future role for CRRA, including:

- **Continue to Operate as Usual:** CRRA will continue to serve the state in its current role.
- **Simplify:** Reassign some of CRRA statewide responsibilities and transition the organization to a simplified regional role similar to other existing regional organizations that manage waste (Southeastern Connecticut Regional Resource Recovery Authority, etc.) and relieve CRRA of responsibility for implementation of statewide education and operational aspects of the SWMP.
- **Privatize:** Create a plan to fully disband CRRA and privatize its assets and liabilities. This may require a utility regulator, such as the Connecticut Public Utilities Regulatory Authority (PURA), to have a role in managing tip fees and other costs for municipalities, to ensure municipalities are not impacted by pricing power present in the lack of sufficient and varied competitive pressure in the disposal, transfer and recycling sectors.
- **Repurpose/Disband:** Distribute CRRA's key statutory capabilities to lay the foundation for other organizations that will drive the future of Connecticut materials management (e.g., bonding authority to Connecticut Innovations or CEFIA for infrastructure bank, market development to DECD, and for public education to CTDEEP). In addition, relieve CRRA of post-closure obligations at landfills, and have another entity (e.g., state, regional authority, municipality) assume the operational and financial role of control of post-closure funding and execution of operations monitoring and maintenance.

CRRA has developed a Transition Plan for both scenarios of (1) achieving a sustainable business model that improves the long-term stability of the Authority and (2) conducting the dissolution of the Authority and the dispensing of the Authority's assets. The Transition Plan is predicated on the most current state Solid Waste Plan dated December 2006 and existing MSAs and contracts as the baseline for CRRA's financial forecast and enabling statutes.

2.4 Current Role of CRRA

CRRA was created with the idea that resources recovery projects and related services could be developed more quickly and with greater flexibility by an independent, quasi-public organization authorized to issue special revenue bonds, than through a state authority structure. CRRA is required to be self-funded, deriving its revenues from its operations including tip fees for trash disposal, the sale of electricity from its resources recovery facilities (RRFs), and the sale of

recyclable commodities. CRRA does not have the power to require municipal participation in any of its projects.⁵

Since its establishment, CRRA's overarching goal has been to serve its member municipalities through cost-based regional projects that are in the interest and for the benefit of the municipalities and their solid waste management and recycling objectives, and be consistent with the Connecticut SWMP. To that end, over the past 40 years, CRRA has been involved in one or more capacities in planning, designing, financing, constructing and managing four resources recovery projects: Bridgeport, Mid-Connecticut, Southeast and Wallingford. Through municipal service agreements with Connecticut municipalities and the Southeastern Connecticut Regional Resources Recovery Authority (SCRRA), and solid waste delivery agreements with more than 50 private haulers, CRRA serves the MSW needs of over 100 Connecticut municipalities and their citizens.

CRRA currently owns four transfer stations, the South Meadows Resources Recovery Facility (which consists of a waste processing facility and a power block facility), two recycling facilities (the Hartford Regional Recycling Center and a recycling facility in Stratford), and is responsible for closed landfills (the Hartford, Ellington, Shelton, Wallingford MSW Landfills, and the Waterbury Bulky Waste Landfill). CRRA provides administrative support to the Southeastern Connecticut Regional Resources Recovery Authority (SCRRA) and 12 of the former 20 Bridgeport Project municipalities. CRRA's full operational requirements are discussed in Section 8.

By statute, CRRA provides solid waste management services to municipalities, regions and persons within the state by receiving solid waste at CRRA's facilities, pursuant to contracts between CRRA and such municipalities, regions and persons; the recovery of resources and resource values from these solid wastes; and the production from such services and resources recovery operations of revenues sufficient to provide for the support of CRRA and its operations on a self-sustaining basis, with due allowance for the redistribution of any surplus revenues to reduce the costs of CRRA services to the users thereof, including any net revenue from certain specific contracted activities.

CRRA's purpose as outlined in the statute encompasses the following functions:

- Use, through contractual arrangements, of private industry as necessary or desirable to serve the solid waste needs of Connecticut municipalities and implement the SWMP
- Assist with and coordinate efforts toward source separation for recycling purposes
- Assist with development of industries and technologies based on resources recovery, recycling, reuse and waste treatment or processing
- Provide municipalities and haulers cost-based disposal options in the face of limited alternatives due to capacity constraints and the pricing power of private disposal facilities
- Improve state-wide environmental performance with respect to solid waste (e.g., implement the SWMP which calls for increasing diversion)
- Be the disposal provider for municipalities as needed

⁵ http://www.cga.ct.gov/2009/pridata/Studies/PDF/MSW_Services_Final_Report.pdf

2.5 Transition Plan Contents and Development Process

CRRA has worked to develop this Transition Plan in response to the state legislature's mandate, Public Act No. 13-285. The development process has encompassed internal organizational planning, financial planning and forecasting, asset valuation, statutory review, legal evaluation of CRRA activities and requirements, and solicitation of public comment.

This Transition Plan provides information to the state and CTDEEP regarding CRRA's capabilities and vision for moving forward. The sections of the Transition Plan following this introduction, and the sections of the legislation that they respond to are as follows:

- **Section 3 – Conclusions from CRRA Studies** provides a summary of findings resulting from studies and independent analyses performed for CRRA over the past six years. These studies covered the waste disposal market, waste generation, and asset valuation.
- **Section 4 – Valuation of the Authority** provides information regarding a scenario where the Authority is dissolved and assets are sold.
- **Section 5 – Business Model Scenarios** responds to Section 9 A, and provides, pursuant to the legislation, a series of scenarios for future operation or dissolution of CRRA, including the sale of CRRA transfer stations and other assets to the private sector, the sale or decommissioning of the South Meadows Facility, transfer of waste out-of-state, and use of new technologies. Benefit and consequences are discussed for each scenario.
- **Section 6 – Summary of Efforts to Reduce CRRA's Expenses** responds to Section 9 B, and provides a summary of efforts CRRA has undertaken, both operationally and administratively, to reduce expenses (including management fees, labor costs, contract obligations, and legal fees) and streamline the Authority's services.
- **Section 7 – Assessment of Financial & Legal Liabilities** responds to Section 9 C, and provides an overview of current CRRA financial and legal liabilities.
- **Section 8 – Assessment of CRRA Operational Requirements** responds to Section 9 D, and provides an overview of CRRA's responsibilities and assets throughout the state, including its agreements with municipalities, administrative responsibilities, facilities and services, and statutory duties and capabilities.
- **Section 9 – Assessment of CRRA State-Wide Role** responds to Section 9 E, and provides an overview of CRRA's responsibilities and power in the areas of implementation of the SWMP, bonding, and education.
- **Section 10 – Assessment of Post-Closure Responsibilities and Liabilities of Landfills under CRRA Care and Control** responds to Section 9 F, and provides information regarding the status of CRRA's management of its closed landfills, and operational responsibilities thereof.

At the back of this Transition Plan are a series of Exhibits, referenced in the text, which provide background, supporting data and analyses, and expanded discussions of items within the plan. The Exhibits are as follows:

- **Exhibit A - CT Public Act No. 13-285: An Act Concerning Recycling And Jobs** is the state legislation that requires CRRA to develop this Transition Plan.
- **Exhibit B - CT Solid Waste Management Plan Executive Summary** is the executive summary of the 2006 update to the SWMP. It contains tables summarizing the recommended actions for plan implementation.
- **Exhibit C - 5-Year Authority Operating Forecast** is a five-year forecast of CRRA's costs and revenues, and presentation of the gap it faces between the expected cost of service, and the MSA opt-out option tipping fee. This exhibit presents a series of gap mitigation options that could be applied to bridge this gap.
- **Exhibit D - Solid Waste Disposal Market Assessment** is a report developed in 2013 by GBB that reviews the customer base of publicly owned RRFs throughout the Northeastern U.S. and presents conclusions regarding how the closure of those facilities would affect the disposal market and the customers they serve.
- **Exhibit E - Out-of-State Disposal Market Assessment** is a report developed in 2013 by GBB that analyzes the capacity and pricing of disposal at RRFs and landfills throughout the Northeastern U.S. that may be able to accept the volume of waste managed by the South meadows Facility, if it were to close.
- **Exhibit F - State of CT MSW Supply Assessment** is a report developed in 2013 by GBB that models four scenarios that may result if the diversion of organic materials and recyclables were to increase pursuant to possible programs presented in the SWMP. The report presents estimates of the amount of MSW that would be available to the South Meadows Facility if these scenarios were to come to fruition by 2024.
- **Exhibit G - Ensuring Capacity for Connecticut's Municipal Solid Waste and Recyclables in Changing Market Conditions** is a report developed in 2007 by GBB that analyzes the Connecticut disposal market and capacity constraints, and presents conclusions regarding the balance of public and private capacity in the state.
- **Exhibit H - New and Emerging Technology Assessment** is a report developed in 2013 by GBB that reviews a number of alternative waste conversion technologies, including thermal processing, anaerobic digestion, hydrolysis, chemical, and mechanical processing. The report provides recommendations regarding what technologies may be applicable at the South Meadows site, and a recommended course of action for CRRA in further investigation of technology opportunities.
- **Exhibit I - Cost Estimate for Dismantling the South Meadows Facility** is a report developed in 2013 by TRC that presents an estimate of the cost of dismantling the South Meadows Facility and performing remediation on the site.
- **Exhibit J - Valuation Analysis of CRRA's Jet Turbine Facility** is a report developed in 2013 by TRC that presents an estimate of value of CRRA's Jets, as decommissioned and sold as scrap and spare parts.
- **Exhibit K - Statutory Analysis of Dissolution and Sale of CRRA** is a legal memoranda developed in 2013 by Halloran & Sage that analyzes the statutory requirements for and barriers to the dissolution of CRRA and sale of its assets.

- **Exhibit L - CRRA Landfill Property, Infrastructure, and Operational Information** is a summary of the property, infrastructure, and operational requirements for all of CRRA's landfill sites.
- **Exhibit M - Summary of Public Comments** is a summary and compilation of comments submitted to CRRA in response to a public request for input regarding this planning effort and CRRA's role in the state.
- **Exhibit N - Section 8 Task Force Comments** is a summary and compilation of comments submitted to CRRA by the CTDEEP Section 8 Resources Recovery Task Force.

Throughout the Transition Plan development process, CRRA has utilized the assistance of several firms to perform specialized analyses and planning exercises, including:

Gershman, Brickner & Bratton, Inc. – Gershman, Brickner & Bratton, Inc., (GBB) is an international solid waste management consulting firm that helps public- and private-sector organizations craft practical, customized and technically sound solutions for a wide range of complex solid waste management challenges. GBB's specialty is planning and implementing integrated waste management programs and providing administrative services for solid waste management systems and assets.

Environmental Capital, LLC – Environmental Capital provides financial advice to a wide variety of municipal and private entities for environmentally oriented projects. Environmental Capital specializes in solid waste advisory work and has assisted on over ninety solid waste facility financings and a variety of strategic and feasibility consulting assignments.

J. Binder Consulting, LLC – James Binder is an independent consultant and was a former Principal at ARI with 35 years of industry expertise. He has been active nationwide on more than 100 solid waste and environmental projects including recycling, materials recovery, waste-to-energy, gasification, and anaerobic digestion facilities.

TRC – TRC is a national engineering, consulting and construction management firm providing integrated services to the energy, environmental and infrastructure markets. TRC performs environmental and engineering analysis and asset recovery for power plant closure, abatement, decommissioning, demolition and cleanup.

Halloran & Sage LLP – Halloran & Sage is a Connecticut based law firm that has served as CRRA's general counsel for approximately 10 years.

La Capra Associates, Inc. – La Capra Associates provides electricity, water and natural gas industries with market analysis, energy planning, risk management and regulatory policy consulting. In addition, the company services its clients with procurement services, power system planning and renewable energy services.

3. Summaries of CRRA Studies

Over the past six years, CRRA has commissioned several studies regarding the regional disposal market, Connecticut waste generation projections, and valuation of Authority assets.

In particular, several of the market studies concluded that within the central Connecticut region, CRRA provides cost-based disposal, setting the ceiling on pricing for disposal. Maintaining a cost-based price ceiling in Connecticut serves to protect municipalities from facing higher costs that would result if capacity in the central Connecticut area was exclusively controlled by the private sector, or if waste were transferred to and disposed at RRFs and landfills outside the state. One study evaluates the availability of disposal capacity throughout the Northeastern US and the pricing that may otherwise be available if the South Meadows Facility were to close and waste was transferred for disposal at these available facilities, and indicates that the cost of disposal at these out-of-state facilities would be \$70 to \$90 per ton for access to out of state disposal locations that can accept significant tonnages (250,000 to 500,000 tons per year); an additional \$10 per ton is estimated to operate a transfer station and load waste for transfer to these facilities. These studies indicate that CRRA, through operation of its transfer stations, recycling facilities, and South Meadows Facility, serve Connecticut municipalities and provide them with cost-based, cost-competitive, in-state, publicly-controlled disposal, while serving as the ceiling on price in the region. Sections 3.1 and 3.2 provide additional discussion of these conclusions.

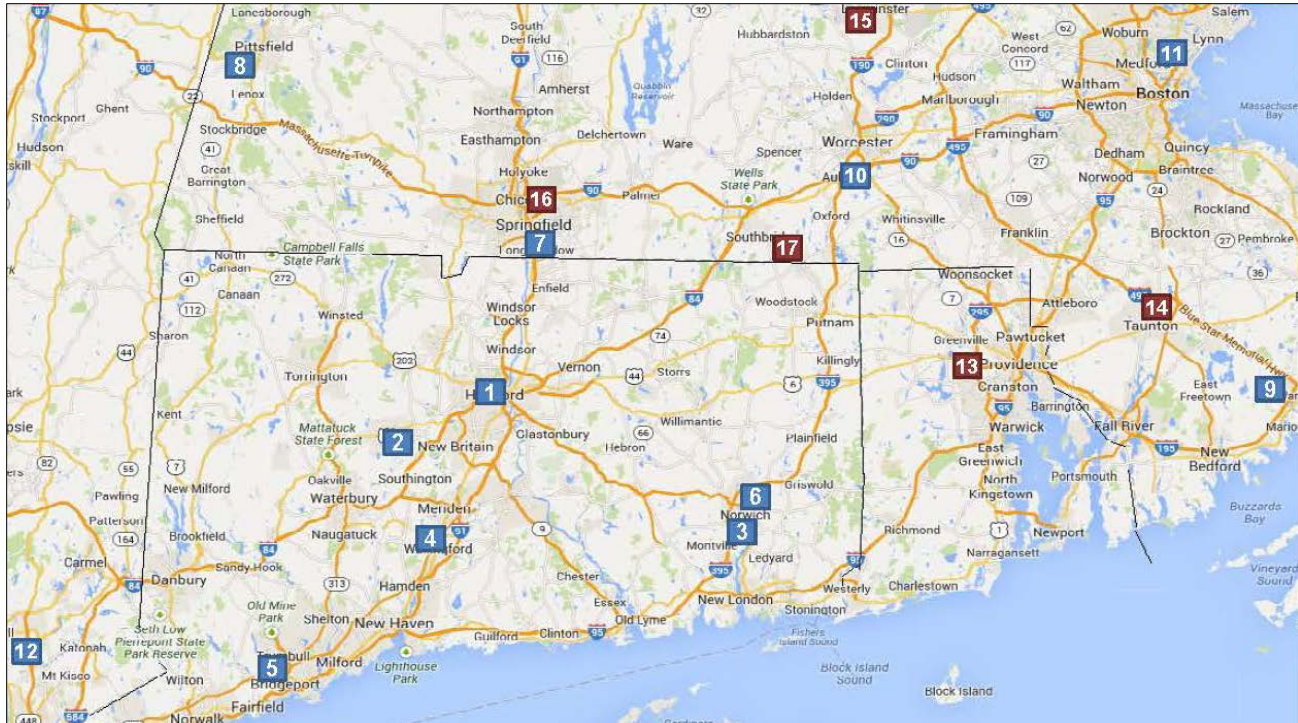
3.1 Solid Waste Disposal Market Assessment

In 2013, CRRA commissioned this report to analyze the marketplace for publicly owned RRFs in the Northeastern U.S., and to investigate the possible impacts to the market and to local disposal conditions if each of the publicly owned RRFs were to close. This report identifies publicly owned RRFs in the Northeastern/Mid-Atlantic region (Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Maryland and Virginia), and for each facility, determines characteristics of its operation, identifies the sources of waste that flow to the facility, and the mechanism through which they flow (e.g. flow control, public residential collection, short term contracts), the tipping fees levied for each customer group and contract/agreement type, the approximate watershed, or region from which the facility draws waste, and tipping fees at other disposal facilities within or nearby the watershed. The report evaluated each facility to assess what may happen if the facility were to close – where the waste may flow to, and how the economics of disposal may change for the communities affected by this change, based on the data collected on tipping fees at other disposal facilities within or nearby the respective watershed.

In communities where landfill capacity is substantial and available, the closure of publicly owned RRFs may provide those communities with similar or lower-cost disposal options. The closure of these publicly owned RRFs, however, may present a number of issues and challenges to those communities including the loss of host community benefits, loss of local long-term disposal capacity, additional administrative burdens for procuring alternate disposal facilities, and the volatility of market-based pricing. Communities hoping to see reduced disposal pricing

at the end of debt financing will not realize those savings. Additionally, in communities where publicly owned RRFs act as hubs for industrial activity through the direct sale of steam, electricity or metals, there may be negative consequences from the closure of those facilities.

In communities where landfill capacity is limited or absent, like in the state of Connecticut, the closure of publicly owned RRFs would make disposal more expensive for the municipalities served by publicly owned RRFs. In Connecticut, as municipalities do not have access (at reasonable cost) to landfills, closure of the publicly owned RRFs would leave municipalities with only privately owned RRFs, and a market with only two vendors, or shipment through transfer stations to distant, out-of-state landfills. As the publicly owned RRFs offer cost-based pricing, they create a ceiling on tipping fees. Without this price ceiling, the two remaining private RRF owners have greater pricing power, and the cost of disposal to municipalities would rise, as the price ceiling would be established by out-of-state disposal facilities. Figure 3-1 shows the location of RRFs and major landfills in the southern New England region.



| | RRFs | | Landfills |
|----|--------------------------|----|--|
| 1 | CRRA South Meadows | 13 | State of Rhode Island Central Landfill |
| 2 | Covanta Bristol | 14 | Waste Management Taunton |
| 3 | Covanta SCRRA | 15 | Waste Management Westminster |
| 4 | Covanta Wallingford | 16 | Waste Management Chicopee |
| 5 | Wheelabrator Bridgeport | 17 | Casella Southbridge |
| 6 | Wheelabrator Lisbon | | |
| 7 | Covanta Pioneer Valley | | |
| 8 | Covanta Pittsfield | | |
| 9 | Covanta SEMASS | | |
| 10 | Wheelabrator Millbury | | |
| 11 | Wheelabrator Saugus | | |
| 12 | Wheelabrator Westchester | | |

*Wheelabrator is a subsidiary of Waste Management, Inc.

**Figure 3-1
Southern New England RRFs and Major Landfills**

This study is provided as Exhibit D.

3.2 Out-of-State Disposal Market Assessment

In 2013, CRRA commissioned this report as an assessment of out-of-state waste disposal costs in states where waste from Connecticut could reasonably be delivered by truck in the event that the waste currently being managed by CRRA would need to enter the marketplace for disposal. This report represents and updates a previous assessment done by GBB in 2011 of the out-of-state disposal market. The assessment is based on the assumptions that any disposal facility that would

be considered a good candidate for use would be able to accept between 250,000 to 500,000 tons per year (TPY) of solid waste; there would be contract agreements (as opposed to spot pricing) with the disposal facilities for 5 to 10 year periods based on a set quantity of waste (such as 500 tons per day). In the Northeast, three of the states in the survey (Pennsylvania, Ohio and Virginia) are net importing states due to the available disposal capacity and low disposal pricing. The remaining four states (New York, New Jersey, Massachusetts and Maryland) are net exporting states. Figure 3-2 shows the location of these facilities evaluated.

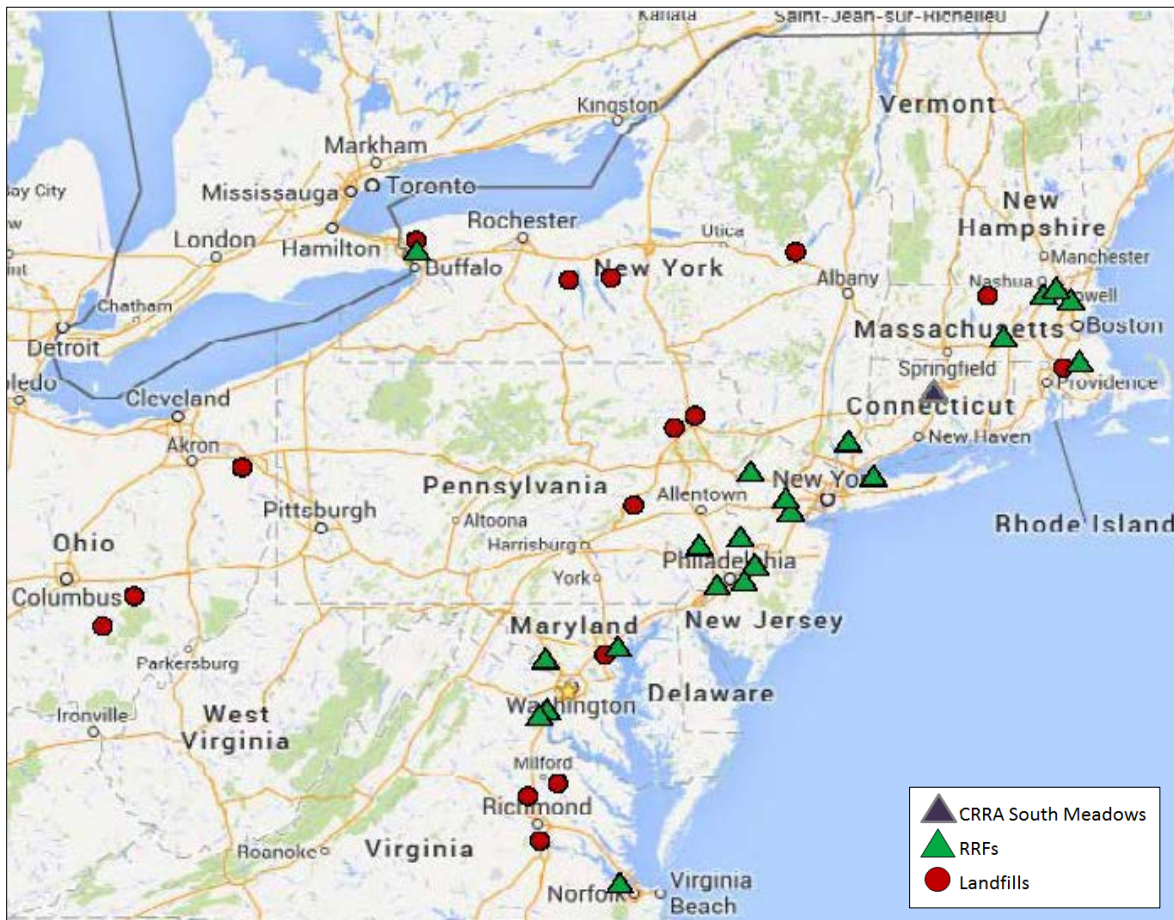


Figure 3-2 Northeastern Disposal Facilities that may have Available Capacity

Based on the information provided in the report, the T&D pricing for out-of-state landfills was in the \$70 to \$90 per ton range, with an additional \$10 for transfer station operation and loading. There are six landfills where the waste could be taken; three of these are located in Pennsylvania and three are in New York. The range in T&D pricing for RRFs generally ranged from \$83.00 to \$100 per ton. The transfer and disposal (T&D) cost is largely a function of the cost of transportation, so lower costs were found at facilities with available capacity in New York and Massachusetts.

The T&D pricing determined for states such as Virginia and Ohio was generally in the range of \$100 to \$130 per ton. The transportation costs to several of these facilities were calculated to be

nearly \$80.00 per ton. With transportation costs at that level, consideration should be given to rail transportation.

This pricing does not include the cost of transfer station operation. Loading waste for transfer and disposal adds approximately \$10 to the overall cost of out-of-state disposal. The information contained was presented for CRRA to use as a guide and general assessment of the solid waste disposal market in the Northeast. Disposal markets are often dynamic and in actual contract negotiations, pricing may be higher or lower than this survey may indicate. This study is provided as Exhibit E.

3.3 State of CT MSW Supply Assessment

In 2013, CRRA commissioned this report to analyze the MSW supply for the South Meadows Facility in the Central Connecticut Region, and the municipalities outside the region currently delivering MSW to the facility. The analysis included five different MSW management scenarios and their effects on the projected amount of MSW available to the facility for the period of 2014 to 2024. The five scenarios analyzed in the report are as follows:

1. Baseline Scenario - Recycling and composting rate remain constant
2. Scenario 1 - Increase in the diversion rate of organic material through composting and anaerobic digestion
3. Scenario 2 - Increase in the recycling rate
4. Scenario 3 - Increase in the composting and the recycling rates to the state's goal of 58 percent total diversion rate by 2024
5. Scenario 4 - Increase in the composting and the recycling rates to the state's goal of 58 percent, and decrease in the per capita MSW generation to 0.6 tons-per-year (TPY) by 2024

Also included are population and MSW generation projections for the targeted years of 2014-2024.

Figure 3-3 shows the projected amount of MSW available in 2014, 2019 and 2024 in the scenarios, compared to the baseline. Scenarios 1 and 2 show a moderate decrease in the amount of MSW, though still more than the 720,000 TPY needed by the South Meadows Facility. Scenarios 3 and 4 show significant decreases in the MSW available in 2024. Scenario 4 is the only scenario without sufficient MSW in 2024. This study is provided as Exhibit F.

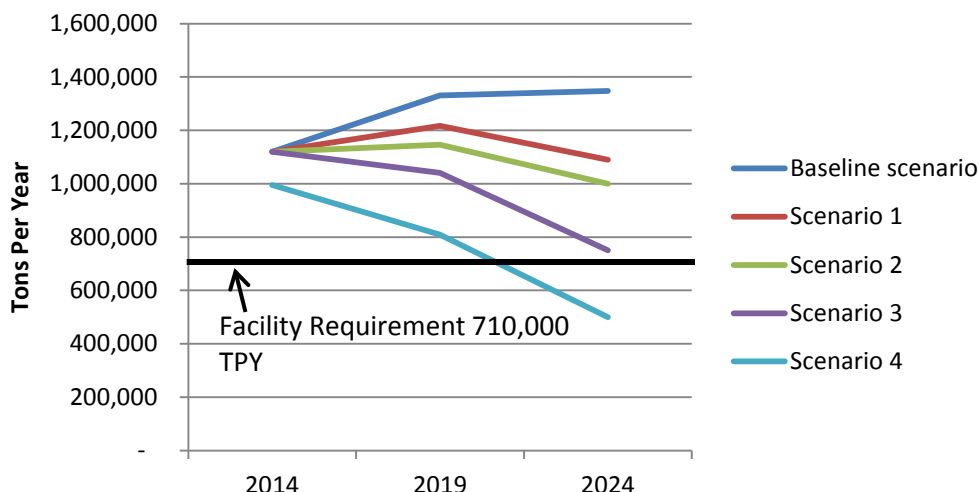


Figure 3-3 Comparison of the Amount of MSW Available for the Facility in Different Scenarios Compared to the Baseline

3.4 Ensuring Capacity for Connecticut’s Municipal Solid Waste and Recyclables in Changing Market Conditions

In 2007, CRRA commissioned the preparation of a white paper on the challenge of meeting Connecticut’s solid waste and recycling needs, through participation in in- and out-of-state disposal markets. The study concluded that existing processing and disposal capacity for Connecticut’s MSW waste stream faced a shortfall of over 300,000 tons per year (approximately 800 tons per day). The report found that unless infrastructure was added or modified, and/or rates of generation and recycling changed significantly over the next 10 years, Connecticut’s municipalities would become increasingly more reliant on facilities outside Connecticut, and thus outside their control or management, to serve their disposal needs.

In short, the white paper presented that without substantial new funding, expansion of existing capacity, both for processing and disposal, and the political will to support these initiatives as the underpinnings for a self-sustaining solid waste management system, Connecticut’s system will continue to devolve from one that has been largely self-sustaining to one that is increasingly dependent on facilities and programs outside the state that are beyond the oversight, management, and control of Connecticut’s local governments and the CTDEEP.

The substantial portion of the existing solid waste management system for MSW in Connecticut has been developed and sustained through CRRA. CRRA developed, constructed, and then operated an integrated system of four regional waste-to-energy facilities, two regional recyclables processing centers, two landfills, and 12 transfer stations, providing for solid waste recycling and disposal services to more than 100 Connecticut cities and municipalities. Of critical importance, between 2008 and 2015, four of these six waste-to-energy facilities would be privately owned and under the full control of the private owner. This development effectively transfers the control, oversight and assurance of processing capacity for over 1,463,000 tons per

year of MSW in Connecticut from the public to the private sector, potentially allowing that capacity previously dedicated to the needs of Connecticut municipalities through long-term contracts to be open for commitment to waste sourced at the highest market-clearing price, originating either within or outside Connecticut boundaries. This situation posed, and continues to pose, significant risk in terms of capacity assurance and disposal cost to Connecticut municipalities. This white paper is provided as Exhibit G.

3.5 New and Emerging Technology Assessment

In 2013, CRRA commissioned this report to identify and describe new and emerging technologies that could potentially replace the South Meadows Facility in the shortest time possible, i.e., technologies that are now or will be commercially available in the near future, have the capability of reliable and cost-competitive waste disposal, enhance materials and renewable energy recovery, reduce environmental impacts, and are otherwise appropriate for consideration as alternatives to traditional waste-to-energy technology for the management of up to 710,000 TPY of post recycled, mixed, unsorted MSW. This report also addresses the potential for a smaller MSW facility if current source reduction, recycling and organics management programs are enhanced consistent with the SWMP, or if the facility attracts fewer customers. In addition, this report assesses Anaerobic Digestion (AD) technology that could be used to process source-separated organics, such as food waste. The AD assessment was conducted to review technology that could support Connecticut Public Act No. 11-217 which mandates recycling and composting of source-separated organic materials by commercial entities.

The report reviewed thermal, biological, hydrolysis, chemical, and mechanical processes, or some combination thereof. Traditional technologies such as composting or co-composting, MRFs for separation and recycling of waste, conventional RRFs (traditional mass-burn, refuse-derived fuel and fluid bed combustors), and landfilling are not the subject of this report. Considering this, the project risk for using new and emergent technologies in a commercial setting is higher than that for conventional RRF technology, including that for reliability, performance, market strength for certain products, environmental impacts and cost. This report presents that there are potential benefits to these emerging technologies when compared to conventional RRF technology, including the potential for lower air emissions and potentially enhanced recovery and use of other MSW constituents for recycling and production of renewable electricity, fuels and green chemicals, and reduced quantities of residuals requiring landfill disposal.

The report concluded that CRRA's next steps should be to monitor and evaluate these companies and technologies closely over the next few years. If and when they appear to have the necessary attributes to supplement and/or replace the South Meadows technology, the Authority can advance replacement capacity at a level in line with anticipating increases in diversion and reduction in the amount of disposal capacity needed. This study is provided as Exhibit H.

3.6 Cost Estimate for Dismantling the South Meadows Facility

In October 2013, TRC produced a report for CRRA that evaluated the closure and dismantling of the South Meadows Facility. The study was designed to identify plant-specific issues that will drive the scope, cost and schedule of decommissioning the facility. The evaluation included structural safety, health and safety, permitting requirements, environmental considerations, schedule, and cost.

The costs to perform pre-demolition surveys, develop plans and specifications, abate, decommission, and demolish the plant are estimated between \$12.9 million and \$19.3 million net after scrap and salvage. If the waste processing facility were to be left and maintained, the cost would be reduced by approximately \$953,000. TRC estimates that the entire process could take 30 to 36 months.

This estimate made the assumption that decommissioning the South Meadows Facility will entail demolishing existing structures with the exception of the switchyard and the jet turbine facilities, implementing regulatory required closures, and performing site restoration to a commercial/industrial standard such that portions of the property may be retained or sold/leased for redevelopment. This study is provided as Exhibit I.

3.7 Valuation Analysis of CRRA's Jet Turbine Facility

In October 2013, TRC produced a report for CRRA that evaluated the potential sale or relocation of the Jet Turbine Systems as a unit either nationally or internationally, or the disposition for scrap and spare parts. In the evaluation of the marketability of these units, TRC considered the jet turbine equipment specifications and details, the feasibility of dismantling and divesting the jet turbine system for reuse at another facility, the feasibility of and permitting requirements for using the facility in the U.S. and internationally, and the availability and market pricing for comparable equipment in both the domestic and international markets.

TRC concluded that a market is not likely for the system as a complete operating unit either nationally or internationally at this time, based on the age of the units; absence of emission control equipment; the use of jet fuel as a single fuel and its current costs; the inability to add a heat recovery unit; and the cost to disassemble, package, transport, and reassemble the items.

Should the facility be shut down, TRC concluded that the most effective disposition would be scrap value and spare part sales. TRC estimated the expected value to be approximately \$1 million for the sale of all turbine equipment. This study is provided as Exhibit J.

4. Valuation of Authority Assets and Dissolution Considerations

The Authority has requested a valuation analysis (the valuation) either in whole, as an operating business, or, in part, asset by asset. Because the Authority is created pursuant to state law, the Authority, as a legal entity, may not be sold (see Exhibit K—Statutory Analysis of Dissolution and Sale of CRRA). There is no common equity, as there would be if the Authority were a private company. Any action taken with regard to major changes in the Authority’s assets or the continuation of the Authority itself must comply with state law, especially the statutes that created and govern CRRA.

For purposes of this valuation, it has been assumed that the Authority may lawfully dispose of its assets together, as an operating economic entity that provides for the disposal of solid waste and recycling, that is, the Connecticut Solid Waste Management System (CSWS). Or, it may lawfully choose to conclude its affairs and dispose of individual assets separately or together. This valuation analyzed both approaches.

There are a number of different methodologies that may be used to value businesses and assets. Different methodologies were used to value the Authority as an ongoing business and in valuing its assets in a liquidation sale scenario. In each valuation, the methodology used was the one that best reflects the analytic process that potential acquirers of the Authority’s business or assets may use. This, in turn, will provide the best estimate of what potential acquirers might be willing to pay for the Authority’s assets, either together or separately.

To value the Authority’s assets as an ongoing business, the income capitalization methodology was used. In this method, the cash flows of the business are typically projected out for the useful life of the business. For the Authority, its cash flows were projected out to 2024, the end of the state’s current SWMP and the likely expiration of the useful life under current conditions of the South Meadows Facility. The resulting cash flows were then discounted back to produce a net present value of those cash flows. That is the value today.

To value the Authority’s assets, if it is closed and its assets sold off, both the cost method and the sales comparison method were used. To value the Authority as an ongoing business, two valuation models were constructed that include the revenues and expenses projected by the Authority. The details of how this was done and the assumptions used are described later in this section. In the first case, the Base Case, it was assumed that the current tonnages of waste would continue to be delivered to the Authority’s facilities. In the second case, it was assumed that the tonnages of solid waste delivered to the Authority’s facilities under contract would decline to achieve the goal of the state’s Solid Waste Management Plan, that is, a diversion rate of 58 percent. It was assumed that the Authority would continue to attract the same total tonnage of waste to its facilities by reducing prices substantially for spot waste deliveries.

The major change that was made to the Authority’s projection was to change the assumptions regarding the tipping fees charged to municipalities and haulers under contract to the “opt out” price in their contracts. This was done because the Authority has lost waste to competitors charging lower prices. The opt-out prices are the prices at which there is a reasonable assumption that the projected volume of solid waste will continue to be delivered to the Authority.

This valuation also provides an analysis that assumes that the Authority will shut down the South Meadows facility, cease to provide solid waste disposal and recycling service and sell off the Authority's assets piecemeal. While the Authority has either appraisals or tax assessment information on certain of its facilities, these values would certainly be affected, perhaps in a substantial way, if South Meadows were closed.

4.1 Potential Purchase options for Authority Assets

4.1.1 Continued Operation of South Meadows as a Resource Recovery Facility Post-Sale

The most likely purchasers of the Authority's assets, who would continue to operate South Meadows as a resource recovery facility, are Covanta and Wheelabrator. All have the requisite skills and knowledge. Covanta has operated South Meadows. Covanta and Wheelabrator are the only two major resource recovery facility operating companies remaining in the US. Both Covanta and Wheelabrator have facilities with little excess capacity operating in the Connecticut waste disposal market. In 2010, Covanta processed 26.5 percent of the market and Wheelabrator processed 32.2 percent (solid waste volumes were obtained from the Connecticut DEEP website and were the most current available). Covanta facilities in Bristol, Wallingford, SEMASS, Springfield, Pittsfield, and soon to be Preston, encircle Hartford. Wheelabrator owns and operates a 2,250 ton per day RRF in Bridgeport, CT. and operates a 563 ton per day RRF in Lisbon, CT under contract to the Eastern Connecticut Resource Recovery Authority. Wheelabrator also owns and operates a 1,500 ton-per-day resource recovery facility in Millbury, MA.

CRRA, through its operation of South Meadows, sets a cap on tipping fees in the state. Since CRRA sets prices at no higher than its Net Cost of operation and since South Meadows has excess capacity, other operators in Connecticut generally cannot set tipping fees above those charged at South Meadows or they will lose the waste so priced to South Meadows. South Meadows had a 37.7 percent share of the Connecticut solid waste disposal market in 2010.

If CRRA's tipping fee cap function were to be removed through the sale or liquidation of CRRA, then Covanta and Wheelabrator would have substantial freedom to increase tipping fees (see below for the discussion of the effect of CRRA's contracts with its municipal customers). Since most, if not all, excess capacity in Connecticut, other than at South Meadows, is controlled by Covanta or Wheelabrator, the likely tipping fee that would clear the market would be the tipping fee required to ship solid waste out of state, most likely to New York or Pennsylvania landfills. In other words, Covanta and Wheelabrator could potentially raise their tipping fees at all of their facilities, including at South Meadows, until they reached the cost for exporting waste. If they increased their tipping fees past that point, they would lose waste to others operating in the interstate market. GBB estimates the tipping fee required to transfer and dispose of solid waste out of state is in the range of \$80 to \$100, including the cost of transfer. If Covanta or Wheelabrator believe that the acquisition of South Meadows will enable them to increase tipping fees at their other facilities or to capture all or a substantial portion of the waste currently

processed at South Meadows, they would tend to value the acquisition of the CSWS more highly than the discounted present value shown in our valuation model.

4.1.2 Dissolution of the Authority and the Sale of the Assets

An alternative to selling the CSWS as a system with South Meadows as the primary mechanism of solid waste disposal is to provide for the shutdown of South Meadows as a resource recovery facility and to organize a sales process for the assets of the Authority together or separately as is determined by the market through a bidding process. Because there is limited unused capacity for solid waste disposal (see Table 4-1), most of the tons no longer processed at South Meadows would require out of state disposal. This is an amount in the range of 700,000 tons per year or more (712,000 tons per year currently processed at South Meadows, assuming the facilities all operate at 100 percent at all times). The waste would have to be exported through transfer stations. There were 19 transfer stations operating in Connecticut in 2010 that transferred more than 5,000 tons of waste (DEEP records). Seven sent waste to South Meadows. Three, Ellington, Watertown, and Torrington, are owned by CRRA and one, Essex, is leased. Each of these four has substantial capacity.

**Table 4-1
Solid Waste Reported Received by Connecticut RRFs and Landfills**

| Fiscal Year Ending June 30, 2010 | | | | |
|----------------------------------|----------------------|-----------------|---------------------|--------------------|
| | <u>Facility Type</u> | <u>Capacity</u> | <u>90% Capacity</u> | <u>Tons of MSW</u> |
| BRIDGEPORT | RRF | 821,250 | 739,125 | 756,120 |
| BRISTOL | RRF | 237,250 | 213,525 | 200,742 |
| LISBON | RRF | 195,640 | 176,076 | 164,183 |
| MID-CT | RRF | 888,888 | 799,999 | 790,230 |
| PRESTON | RRF | 251,485 | 226,337 | 272,389 |
| WALLINGFORD | RRF | 153,300 | 137,970 | 147,835 |
| WINDSOR/BLOOMFIELD | LF | - | - | 13,426 |
| | | 2,547,813 | 2,293,032 | 2,344,925 |

In a non-CRRA, export driven market, these transfer stations, plus South Meadows converted to serve as a transfer station, would seem to have value. The value would be a function of a variety of factors including their adaptability to out-of-state waste export, their ability to capture waste, and the competition from other nearby transfer stations. Also, the cost and speed that are required for permitting new transfer stations could be important, if any permits are required.

The likely maximum values that the market would set on these facilities would be the cost of siting, land acquisition, permitting and constructing comparable facilities; however, the state could drive up the value of existing transfer stations, if it makes the siting of new or expansion of existing transfer stations more expensive or time consuming.

The potential acquirers of the CRRA transfer station properties could be any sizeable solid waste company that is operating or wishes to operate in Connecticut. The larger in-state companies are the most probable acquirers.

4.2 Municipal Service Agreements

One major complicating factor in the valuation analysis is the existence of the MSAs that the Authority has entered into with 51 different towns in Connecticut. While there are four different “tiers” of contracts with different conditions, 34 of the contracts terminate either in 2017 or 2027. The remaining contracts have shorter terms.

The MSAs obligate CRRA to set the tipping fee at a level estimated as sufficient to pay the Net Cost of operation in any given year. The Net Cost of operation equals all of the costs to CRRA of providing solid waste disposal services less any revenues other than disposal fees. The major non-disposal revenues are electric revenues. The MSA’s also contain an opt-out option tipping fee for each year of the contract. If the tipping fees rise above that opt-out level, the municipality may terminate the MSA. Potential acquirers are unlikely to wish to be bound by a set of contracts that would appear to prohibit their earning a profit. It seems likely that some changes to the terms of the MSAs would have to be negotiated for any acquisition to take place.

The MSAs also contain a recitation of the pledge from the state to those parties who may enter into contracts with CRRA that the state pledges that it will not limit or alter the rights vested in CRRA until such contracts are fully performed by the CRRA. If the state terminates CRRA, it is likely that the state would have to address the various municipalities’ rights under the MSAs.

If the towns believe that the shutdown of CRRA would cause their solid waste disposal costs to increase, they might want the state to make them whole. While the amount, if any, is impossible to project at this time, it should be noted that any such payments would, if they occur, reduce the valuation.

4.3 Valuation Methodologies

There are many different methodologies that may be used to assess the value of enterprises and assets. Three methods were used, each judged as most likely to be used by a potential acquirer: the income capitalization method, the cost method, and the sales comparison method.

4.3.1 Income Capitalization Method or Discounted Cash Flow Method

In this method, both positive cash flows (revenues) and negative cash flows (expenses) are projected for the life of the facilities or system. The cash flows in each year are summed to a net positive or negative operating income (loss) number. Those numbers are then discounted back at the appropriate discount rate to obtain a present value of the cash flows.

The discount rate used in the valuation is derived as follows:

**Table 4-2
Calculation of Cost of Capital**

| <u>Source of Capital</u> | <u>% Capital</u> | <u>Rate</u> | <u>WACC Calculation</u> |
|--------------------------|------------------|-------------|-----------------------------|
| Debt | 50.00% | 4.80% | 2.40% |
| Equity | 50.00% | 16.50% | 8.25% |
| WACC | | | 10.65% |

Source: Summary Appraisal Report of the Mid-Connecticut Waste-to-Energy Facility Real and Personal Property (January, 2012)

4.3.2 Cost Method

The cost method relies on an assessment of the costs of replacing the facilities in question. This method was used to evaluate what certain Authority assets, except for South Meadows, might be sold for if the Authority was shut down. The cost method was not used to value South Meadows for several major reasons. The first is that it is unlikely that a new 3,000 tons per day RRF could be sited, permitted and constructed in Connecticut in the near future, so the cost would have little bearing in what a purchaser would be willing to pay. Second, South Meadows technology is outmoded. A similar plant is not likely to be constructed. Third, the likely cost of a mass burn replacement facility (on the order of \$475 million according to GBB is so high as to be irrelevant to what a purchaser might be willing to pay for South Meadows as is.

The replacement cost is the most useful method for determining a potential maximum value for the Authority’s transfer stations, if CRRA is broken up and the assets sold.

4.3.3 Sales Comparison Method

Another familiar valuation methodology is the sales comparison method. This method is used extensively to price both residential and commercial real estate. This method was not used to value the Authority as an on-going business due to the lack of comparable sales.

The Authority, as a business enterprise, is unusual, if not unique, as is the South Meadows facility. There are no comparable sales of solid waste systems or refuse derived fuel facilities against which the potential sale of the Agency may be judged.

An appraisal of South Meadows made by CB Richard Ellis, which uses the sales comparison method, was included as part of our valuation of South Meadows.

Also used was the current tax assessments on certain of the Authority’s real estate assets and previous consultants’ reports on developing new transfer stations.

4.3.4 Multiples Analysis

The Multiples Analysis is a methodology that, although familiar to many people, was not used. This methodology is used frequently to value companies for which there is no market price, such as privately held firms or divisions of larger companies. The analysis identifies as many comparable companies (same size, business, customer base, etc.) as possible and the EBITDA for each is calculated. EBITDA is defined as earnings before interest, taxes, depreciation and amortization and is often thought of as comparable to cash flow. EBITDA is divided into the market value of the firm to obtain a “valuation multiple.” By comparing the various companies and their valuation multiples, a multiple appropriate for use with the potential acquisition company may be determined. This multiple can then be applied to the EBITDA of the acquisition company to calculate a value for that company.

This method was not used to value CRRA for two main reasons. The first is that there are no appropriate comparables. The second is that CRRA operates by law as a not-for-profit entity. It is operated to provide its services at the cost to it of such services. The discounted cash flow method, which also focuses on cash flow, is a more appropriate and accurate way to look at CRRA’s value as an operating entity.

4.4 Valuation Analyses

4.4.1 Discounted Cash Flow Model - Cases 1 and 2

As set forth earlier, the DCF models use the Authority's projected cash flows from fiscal year 2016 to 2024, the year in which the state's current SWMP ends. While it may be possible to keep South Meadows operating beyond 2024, it is thought that by that time, the solid waste market in the state will have changed sufficiently enough to make the assumptions underlying the cash flows used in the valuation models no longer valid.

Fiscal year 2016 was selected as the beginning year to allow 18 months for the disposition of the Authority's assets. Certain key assumptions made in Case 1 were modified in Case 2 as set forth below; however, all other the assumptions are identical in both Cases.

The Authority developed projections for the fiscal years 2014-2018. These projections were used as the basis for the two discounted cash flow models. The major assumptions for the models are as follows:

Case 1: Base Case

1. The projections are based on those provided by the Authority, which extend through 2018. The figures for the year 2018 have been extended out through 2024.
2. The opt-out tipping fees for the MSAs are used for all MSW delivered pursuant to MSAs and for hauler put or pay deliveries for all years of the projections. For the years 2019-2024 The opt-out price was increased by \$1.00 per year.
3. Other contractual and spot tonnage tipping fees were as the Authority projected them.
4. The electric prices used come from the 10-year electric price forecast developed by La Capra Associates (September 25, 2013 - Monthly Average of Operational Historical Data (\$/kWh)).
5. No inflation is assumed because it is believed that revenues and expenses will inflate at the same rate.
6. The Jet Turbine Facility is assumed to be shut down in 2016 upon the sale of the CSWS and sold for scrap for \$1,000,000.
7. The Wheelabrator lease for the Bridgeport site would not be saleable.
8. Authority operating and maintenance costs at the facility are reduced by 25 percent starting in 2016 to reflect possible reductions in costs associated with an existing company not requiring all of the existing operating and maintenance costs.
9. Authority administration costs are reduced by 75 percent starting in 2016 to reflect possible reductions in costs associated with an existing company not requiring all of the existing administrative costs.
10. The facility contractor fee is eliminated, as the new owner would operate the facility.
11. All PILOTs and host community fees are assumed to remain at their 2018 levels for 2019 through 2024.
12. No property taxes were assumed for the real property, South Meadows, the transfer stations and the other real estate. It is assumed that the existing PILOTs and host community fees will be sufficient.

13. Discount Rate: weighted average cost of capital calculation is used. See Table 4-2.
14. No revenues from asset sales are included in the DCF valuation. These values are discussed separately in the closedown and sale of the Authority's assets analysis.

Case 2: Solid Waste Volumes Decline to Reach State Goal in 2024

1. All of the assumptions in Case 1 are also assumed for Case 2 except as follows.
2. Tonnages delivered under contract to CRRA are assumed to decline in accordance with the goals of the state Solid Waste Management Plan (the "SWMP"). The SWMP goal is a 58 percent diversion of existing solid waste tons disposed to recycling and composting by 2024. The assumed tonnages delivered under contract are assumed to change in accordance with the forecast provided by GBB so as to reach a 58 percent diversion rate by 2024. (See Section 5 and Section 6.4 of the "Analysis of MSW Supply in the Central Connecticut Region" report prepared by GBB dated October 24, 2013)
3. The tonnages received each year through the spot market are assumed to increase by an amount equal to the decline in tonnages delivered under contract. The net effect is to keep total tons delivered and processed level.
4. The tipping fee for spot tonnage is reduced from the 2015 level of \$40/ton in the same proportion that the tonnages are reduced, as it is believed that it will be necessary to reduce fees to attract additional tonnage each year.

4.4.2 Sale as a Continuing Business

Case 1: Base Case

DCF Valuation = \$8,673,030

Case 2: Solid Waste Volumes Decline to Reach State Goal in 2024

DCF Valuation = (\$20,213,557)

4.4.3 Dissolution of CRRA and Sale of its Assets in Whole or in Part

South Meadows

If South Meadows were closed, the roughly 700,000 tons per year of municipal solid waste now handled by South Meadows would have to be disposed of elsewhere. The closure of South Meadows would eliminate roughly 34 percent of the solid waste disposal capacity in the state. Since the only other disposal facilities available in state are all operating at close to capacity (See Table 4-1), most of the 700,000 tons per year would have to be exported, most likely to landfills in western New York, Pennsylvania, or Ohio. The Authority's Consulting Engineers, Gershman, Brickner & Bratton, Inc., estimate that the likely cost/ton of exportation would be in the range of \$80 to \$100, including the cost of transferring the waste at transfer stations.

Of the 700,000 tons per year of solid waste currently delivered to South Meadows, appropriately 55 percent, or 385,000 tons, is delivered directly in packer trucks and approximately 45 percent, or 315,000 tons, is delivered through transfer stations on trailers. If South Meadows is shut

down, trailers coming from transfer stations may simply be rerouted directly from those transfer stations to out of state disposal facilities. The remaining 385,000 tons may either be delivered to existing transfer stations or continue to be delivered to South Meadows, which could be configured as a transfer station.

If the existing transfer station network in the state cannot readily handle the 385,000 tons currently delivered directly to South Meadows, there could be value in converting South Meadows into a transfer station. The value could be as high as the cost of a new, similarly sited transfer station, including siting, land acquisition, permitting, and construction, less the cost of converting the South Meadows to being a transfer station.

A major consideration for the disposition of South Meadows is any required decommissioning costs. The site, excluding the footprints of the facilities, has been remediated previously. The Authority's consultants, TRC, have estimated a cost of \$12,900,000 to \$19,300,000, net of \$3,400,000 to \$5,000,000 scrap/salvage value, for a complete decommissioning of the site, including the removal of all the facilities. It seems likely that an acquirer would require that it be immunized from these costs in some way in order to enter into an acquisition.

The Authority does have an appraisal report for the South Meadows site dated February 9, 2011 from CB Richard Ellis, a commercial real estate firm. Their analysis shows a value of \$13,100,000 assuming that the site is fully remediated and the existing facilities removed. It also assumes that the parcel can be developed to its highest and best use. As discussed in the previous paragraph, there are substantial costs required to conform to these assumptions. The site is also subject to certain easements that might interfere with the highest and best use.

Low Value (\$6,200,000)

High Value \$200,000

Ellington, Torrington Watertown Sold as Transfer Stations

By the same logic, the valuations of the Ellington, Torrington, and Watertown transfer stations would range between \$0 and their replacement cost, that is, the sum of siting, land acquisition, permitting and construction costs. If these transfer stations are critical to the capture of municipal solid waste for exportation and thus for profit, they will price at the upper end of the price range. In 2010, according to DEEP records there were 19 transfer stations operating in the state that transferred more than 5,000 tons of waste that year.

DEEP records show that in 2010 46,250 tons were transferred through Ellington; however, Ellington has substantial shortcomings as a competitive transfer station site. There is significant nearby competition from a large hauler's transfer station, the town has placed significant restrictions on expansion and the facility is located on the landfill. It would be difficult to use it for an alternative purpose. It seems likely that Ellington will have very little value for potential acquirers.

DEEP records show that in 2010, 51,443 tons were transferred through Torrington. This suggests that the facility may have value to an acquirer.

DEEP records show that in 2010, 131,767 tons were transferred through Watertown, more waste than any other transfer station in the state. Again, this suggests a higher valuation.

Based on a report by URS Corporation dated 3/27/06, which evaluated the development and construction of a transfer station in Wallingford, and based on appraisals of CRRA's four mid-Connecticut transfer stations conducted by CGS Associates in calendar year 2006, the Authority estimates that the cost of siting and constructing a transfer station (including land costs) would be between \$1,000,000 and \$4,000,000.

Low Value \$1,000,000 each for Torrington and Waterford

High Value \$4,000,000 each for Torrington and Waterford

Other Real Estate Assets

1410 Honeyspot Road, Stratford, CT

This site is a light industrial site that may have a variety of uses. It is appraised at \$4,651,000. Applying the 70 percent of value appraisal methodology in use in Connecticut, the value becomes \$6,644,284. Whether or not this value can be achieved, may only be determined by putting the facilities on the market.

Valuation \$6,644,284

171 Murphy Road, Hartford, CT

This site is a light industrial site that may have a variety of uses. It is appraised at \$578,999. Applying the 70 percent of value appraisal methodology in use in Connecticut, the value becomes \$827,000. Whether or not this value can be achieved, may only be determined by putting the facilities on the market.

Valuation \$827,000

211 Murphy Road, Hartford, CT (Site of CRRA-Central Connecticut Recycling Facility)

This site is a light industrial site that may have a variety of uses. It is appraised at \$4,781,490. Applying the 70 percent of value appraisal methodology in use in Connecticut, the value becomes \$6,830,700. Whether or not this value can be achieved, may only be determined by putting the facilities on the market.

Valuation \$6,830,700

95 Howard Avenue, Bridgeport, CT

This is the site of the Wheelabrator Bridgeport Resource Recovery Facility. The land under the facility is leased to Wheelabrator. The site is an industrial site and has never been remediated. CRRA does not believe that the land could be sold without remediating it and making provision

for the removal of the Wheelabrator facility, the cost of which would be substantial. Therefore, the land itself could not be sold at this time nor could the lease be transferred to a private party.

Valuation \$0

The Jet Turbine Facility

According to the Authority's projections, the Jets show very positive net cash flows through 2018 indicating that the Jets would have significant value. However, the Authority does not believe that the air permits required to operate the Jets could be transferred to a private owner/operator, which means that they could not be run. In that case, the valuation produced by the discounted cash flow would not be applicable. The Authority's consultant, TRC, estimates that the Jets would sell for their scrap value, which they estimate to be \$250,000 per unit for a total value of \$1,000,000. (See Exhibit J)

Valuation \$1,000,000

**Table 4-3
Asset Valuation**

| | Optimal Valuation | Notes | Tax Assessment | Estimated Market Value from Assessment | Land or Facilities Appraisal | Siting and Permitting and construction | Decommissioning Cost | Final Valuation |
|---|----------------------------------|-------|----------------|--|------------------------------|--|---|--|
| Transfer Stations | | | | | | | | |
| South Meadows as Reconfigured | Industrial Site | 1, 2 | | | \$13,100,000 | | \$12,900,000 to \$19,300,000, net after scrap/salvage of \$3,400,000 to \$5,000,000 | Low Value \$(6,200,000) High Value \$200,000 |
| Ellington | Transfer Station | 3,4,5 | | | | | - | - |
| Torrington | Transfer Station | 6 | | | | Range of \$1,000,000 to \$4,000,000 | 1,000,000 | 4,000,000 |
| Watertown | Transfer Station | 6 | | | | Range of \$1,000,000 to \$4,000,000 | 1,000,000 | 4,000,000 |
| Other Assets | | | | | | | | |
| 1410 Honeyspot Road, Stratford | Industrial Site | 7 | \$4,651,000 | \$6,644,286 | | | 6,644,286 | 6,644,286 |
| Land | | | 1,206,000 | | | | | |
| Buildings | | | 3,445,000 | | | | | |
| 171 Murphy Road, Hartford | Industrial Site | 7 | 578,900 | 827,000 | | | 827,000 | 827,000 |
| Land | | | 209,090 | | | | | |
| Buildings | | | 365,470 | | | | | |
| 211 Murphy Road, Hartford | Industrial Site | 7 | 4,781,490 | | | | 4,781,490 | 4,781,490 |
| Land | | | 1,199,870 | | | | | |
| Buildings | | | 3,581,620 | | | | | |
| 95 Howard Avenue, Bridgeport Site of Wheelabrator Bridgeport Resource Recovery Facility | Subject to Lease to Wheelabrator | 8 | | | | | - | - |
| Jet Turbine Facility | | 9 | | | 1,000,000 | | 1,000,000 | 1,000,000 |
| Total | | | | | | | 9,052,776 | 21,452,776 |

Notes to Table 4-3:

1. Appraisal Report dated 2/9/11 by CB Richard Ellis for the land value without structures and remediated to be able to develop land to its highest and best use.
2. TRC Report on Decommissioning the South Meadows Facility dated 10/16/13
3. Significant nearby competition
4. Significant restrictions on expansion
5. Located on the landfill. Hard to use for alternative purpose.
6. Based on the report prepared by URS dated 3/27/06 regarding the redevelopment of the Wallingford Project as a transfer station
7. Valuation based on property tax assessments.
8. Land is leased to Wheelabrator. The site is an industrial site and has never been remediated. CRRA does not believe that the land could be sold without remediating it and making provision for the removal of the Wheelabrator facility, the cost of which would be substantial. Therefore, the lease could not be transferred to a private party.
9. Based on TRC Report dated 10/14/13. They estimated the highest value of the facility to be scrap at approximately \$250,000 for each of four units.

4.4.4 Cash Analysis

The audit for the fiscal year ending June 30, 2013 showed \$87,559,000 of unrestricted cash and cash equivalents and \$6,705,000 in restricted cash and cash equivalents for a total of \$94,264,000. It also showed \$8,184,000 of restricted investments.

On August 31, 2013, the Authority had \$98,214,389 in cash and cash equivalents, which are held in a variety of accounts and reserves (See Table 4-4). The difference represents the normal cash inflows and outflows of the Authority's business. Each of the Authority's 51 bank accounts in which there are funds have been reviewed with the Authority, and the funds have been characterized shown in Table 4-3. While the Authority has a substantial amount of cash, all of that cash is dedicated to paying for costs that are identified, but not precisely quantifiable.

4.4.5 Litigation and Claims against CRRA

The Authority has a variety of litigation in process. It is impossible to predict the outcome of that litigation. Likewise, the Authority has certain claims that have been asserted against it. It is unlikely that anyone that wishes to purchase any of CRRA's assets would be willing to do so if any of that litigation or claims could attach to them. It will be necessary to develop a mechanism to insulate potential purchasers of the Authority's assets from any of the Authority's contingent obligations.

4.4.6 Transaction Costs

The valuation did not examine the likely transaction costs entailed in any type of disposition of CRRA assets. In order to determine the true value to the state, these transaction costs would be deducted from any proceeds. As discussed above, in addition to the sheer size of CRRA and the

diversity of the assets, there are an assortment of complicating issues, such as environmental cleanup costs, contractual obligations (the MSAs), litigation and claims against the Authority. These issues will require substantial time and effort to be resolved. In consequence, these transaction costs are likely to be significant.

4.4.7 Cash Evaluation

While CRRA has substantial amounts of cash and cash equivalents, it is all dedicated to CRRA's current and future responsibilities. Substantial amounts are held in reserve for specific purposes, such as landfill post closure care, as required by law and regulation, substantial amounts are required for capital expenditures to keep CRRA's facilities running and substantial amounts are required for working capital. There are claims against CRRA that may or may not be substantiated. There is litigation to be resolved. CRRA requires the funds in its possession to fulfill its business purposes. It is not clear what amounts, if any, would remain if CRRA were dissolved. For these reasons, the cash reserves of CRRA are not included in the valuation.

**Table 4-4
Authority Cash and Cash Equivalents (As of August 31, 2013)**

| Purpose | Property and Landfill Divisions | Project Divisions | Mid Conn and CSWS | Total | Notes |
|----------------|---------------------------------|-------------------|-------------------|--------------|--|
| Towns | \$1,034,884 | \$11,088,147 | \$11,310,674 | \$23,433,705 | Funds that were accumulated from the MSA or the SCRRRA towns. The SCRRRA funds are used for operations. The Mid-CT and CSWS funds have a variety of uses, including providing for any litigation or claims settlements. At such time as CRRA no longer is operating either the CSWS or the Southeast project, any remaining funds from that project's accounts would go back to the appropriate towns. |
| Reserves | 35,550,961 | - | 17,253,944 | 52,804,905 | Most of these funds are reserved for landfill closure and post closure. A substantial percentage of these funds may be transferred to the state if the state assumes responsibility for landfill post closure. |
| Capital | 5,177,641 | - | 296,274 | 5,473,915 | The CSWS has substantial capital requirements. All funds will be utilized. |
| Use Identified | 794,157 | - | 111,411 | 905,568 | Certain purposes have been identified for which these funds will be used. |
| Operating | 4,288,077 | - | 11,308,219 | 15,596,295 | The funds are necessary for the working capital requirements of the Authority. If the Authority ceases operations, they may be required for the final settlement of the Authority's affairs including all claims and litigation. Remaining funds, if any, after that would have to be returned to the towns, allocated by project. |

The valuation of CRRA was performed based on two valuation methodologies. The values are listed below for each method:

I. Sale as a Continuing Business

Case 1: Base Case

DCF Valuation = \$8,673,030

Case 2: Solid Waste Volumes Decline to Reach State Goal in 2024

DCF Valuation = (\$20,213,557)

II. Asset Valuation

Low Value **\$9,052,776**

High Value **\$21,452,776**

The Case 1 and Case 2 models are provided as Tables 4-5 and 4-6.

| Fiscal Year Ending | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| ASSUMPTIONS | | | | | | | | | |
| Power | | | | | | | | | |
| Weighted Average Rate Per kwh | \$ 0.0495 | \$ 0.0481 | \$ 0.0471 | \$ 0.0472 | \$ 0.0514 | \$ 0.0531 | \$ 0.0561 | \$ 0.0582 | \$ 0.0607 |
| Reduction of O&M Costs | 25% | | | | | | | | |
| Reduction of Administration Costs | 75% | | | | | | | | |
| Discount Rate | 10.65% | | | | | | | | |
| Tonnage Decrease | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| MSW (tons) | | | | | | | | | |
| Tier 1 Short-term | 145,000 | 145,000 | 145,000 | 145,000 | 145,000 | 145,000 | 145,000 | 145,000 | 145,000 |
| Tier 1 Long-term / Tier 3 | 210,000 | 210,000 | 210,000 | 210,000 | 210,000 | 210,000 | 210,000 | 210,000 | 210,000 |
| Tier 2 | 27,000 | 27,000 | 27,000 | 27,000 | 27,000 | 27,000 | 27,000 | 27,000 | 27,000 |
| Total Municipalities | 382,000 | 382,000 | 382,000 | 382,000 | 382,000 | 382,000 | 382,000 | 382,000 | 382,000 |
| Hauler | 60,000 | 60,000 | 60,000 | 60,000 | 60,000 | 60,000 | 60,000 | 60,000 | 60,000 |
| Contract | 179,000 | 179,000 | 179,000 | 179,000 | 179,000 | 179,000 | 179,000 | 179,000 | 179,000 |
| Spot | 91,000 | 91,000 | 91,000 | 91,000 | 91,000 | 91,000 | 91,000 | 91,000 | 91,000 |
| Spot Price | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| Total MSW | 712,000 | 712,000 | 712,000 | 712,000 | 712,000 | 712,000 | 712,000 | 712,000 | 712,000 |
| MSW Tip Fees - Opt Out Prices | | | | | | | | | |
| Short Term Tier 1 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 |
| Long Term Tier 1 / Tier 3 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 |
| Tier 2 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 |
| Hauler | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 |
| CSWS OPERATING REVENUES AND OPERATING EXPENDITURES | | | | | | | | | |
| OPERATING REVENUES | | | | | | | | | |
| Waste Revenue | | | | | | | | | |
| Tipping Fee Revenue | | | | | | | | | |
| Members | \$ 24,464,000 | \$ 24,846,000 | \$ 25,228,000 | \$ 25,610,000 | \$ 25,992,000 | \$ 26,374,000 | \$ 26,756,000 | \$ 27,138,000 | \$ 27,520,000 |
| Contracts | 9,306,000 | 9,306,000 | 9,306,000 | 9,306,000 | 9,306,000 | 9,306,000 | 9,306,000 | 9,306,000 | 9,306,000 |
| Spot | 4,090,000 | 4,090,000 | 4,090,000 | 4,090,000 | 4,090,000 | 4,090,000 | 4,090,000 | 4,090,000 | 4,090,000 |
| Hauler | 3,780,000 | 3,840,000 | 3,900,000 | 3,960,000 | 4,020,000 | 4,080,000 | 4,140,000 | 4,200,000 | 4,260,000 |
| Electricity Revenue | | | | | | | | | |
| Capacity Revenues | 1,340,000 | 1,340,000 | 1,340,000 | 1,340,000 | 1,340,000 | 1,340,000 | 1,340,000 | 1,340,000 | 1,340,000 |
| Energy Revenues | 20,635,000 | 20,073,000 | 19,649,000 | 19,678,000 | 21,427,000 | 22,125,000 | 23,390,000 | 24,259,000 | 25,332,000 |
| Renewable Energy Credits Revenue | 160,000 | 160,000 | 160,000 | 160,000 | 160,000 | 160,000 | 160,000 | 160,000 | 160,000 |
| Metal Sales | 1,771,000 | 1,794,000 | 1,817,000 | 1,817,000 | 1,817,000 | 1,817,000 | 1,817,000 | 1,817,000 | 1,817,000 |
| Municipal Bulky Waste & Mattresses/Box Spring | 179,000 | 179,000 | 179,000 | 179,000 | 179,000 | 179,000 | 179,000 | 179,000 | 179,000 |
| Interest Income | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 | 10,000 |
| Total Operating Revenue | 65,735,000 | 65,638,000 | 65,679,000 | 66,150,000 | 68,341,000 | 69,481,000 | 71,188,000 | 72,499,000 | 74,014,000 |
| OPERATING EXPENSES | | | | | | | | | |
| Operating & Maintenance | \$ 3,288,750 | \$ 3,441,000 | \$ 3,513,000 | \$ 3,513,000 | \$ 3,513,000 | \$ 3,513,000 | \$ 3,513,000 | \$ 3,513,000 | \$ 3,513,000 |
| General & Administrative | 940,500 | 1,037,000 | 1,127,500 | 1,127,500 | 1,127,500 | 1,127,500 | 1,127,500 | 1,127,500 | 1,127,500 |
| Waste Transport | | | | | | | | | |
| Contract Operating Charges (excludes recycling transportation) | 2,816,000 | 2,879,000 | 2,942,000 | 2,943,000 | 2,943,000 | 2,943,000 | 2,943,000 | 2,943,000 | 2,943,000 |
| Disposal Fees - Solid Waste (Bypass) | 623,000 | 628,000 | 680,000 | 634,000 | 634,000 | 634,000 | 634,000 | 634,000 | 634,000 |
| Ash Disposal | 11,244,000 | 11,492,000 | 11,744,000 | 11,744,000 | 11,744,000 | 11,744,000 | 11,744,000 | 11,744,000 | 11,744,000 |
| Non-Processible Disposal Fees | 176,000 | 180,000 | 183,000 | 183,000 | 183,000 | 183,000 | 183,000 | 183,000 | 183,000 |
| Waste Processing Facility | | | | | | | | | |
| Operator Labor Overhead | 5,798,000 | 5,926,000 | 6,056,000 | 6,056,000 | 6,056,000 | 6,056,000 | 6,056,000 | 6,056,000 | 6,056,000 |
| Balance of Waste Processing Facility Fees | 7,055,000 | 7,055,000 | 7,055,000 | 7,055,000 | 7,055,000 | 7,055,000 | 7,055,000 | 7,055,000 | 7,055,000 |
| Power Block Facility | | | | | | | | | |
| Operator Labor & Overhead | 7,554,000 | 7,720,000 | 7,890,000 | 7,890,000 | 7,890,000 | 7,890,000 | 7,890,000 | 7,890,000 | 7,890,000 |
| Balance of Power Block Facility Fees | 10,357,000 | 10,357,000 | 10,357,000 | 10,357,000 | 10,357,000 | 10,357,000 | 10,357,000 | 10,357,000 | 10,357,000 |
| Facility Contractor | - | - | - | - | - | - | - | - | - |
| Transfer Stations | 1,759,000 | 1,794,000 | 1,830,000 | 1,830,000 | 1,830,000 | 1,830,000 | 1,830,000 | 1,830,000 | 1,830,000 |
| Murphy Road Operation Center | 175,000 | 175,000 | 175,000 | 175,000 | 175,000 | 175,000 | 175,000 | 175,000 | 175,000 |
| Property Taxes | | | | | | | | | |
| City of Hartford PILOT | 2,200,000 | 2,200,000 | 2,200,000 | 2,200,000 | 2,200,000 | 2,200,000 | 2,200,000 | 2,200,000 | 2,200,000 |
| Transfer Station Host Community Benefit Fees | | | | | | | | | |
| Essex Host Community Benefit | 36,000 | 37,000 | 38,000 | 38,000 | 38,000 | 38,000 | 38,000 | 38,000 | 38,000 |
| Essex Transfer Station Lease | 16,000 | 16,000 | 16,000 | 16,000 | 16,000 | 16,000 | 16,000 | 16,000 | 16,000 |
| Torrington Host Community Benefit | 34,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 | 35,000 |
| Watertown Host Community Benefit | 56,000 | 57,000 | 58,000 | 58,000 | 58,000 | 58,000 | 58,000 | 58,000 | 58,000 |
| Solid Waste Assessment (Dioxin) | 1,022,000 | 1,022,000 | 1,022,000 | 1,022,000 | 1,022,000 | 1,022,000 | 1,022,000 | 1,022,000 | 1,022,000 |
| Capital Expenses | 11,965,000 | 9,180,000 | 8,690,000 | 7,345,000 | 10,590,000 | 10,820,000 | 6,515,000 | 6,690,000 | 5,135,000 |
| Total Operating Expenses | 67,115,250 | 65,231,000 | 65,611,500 | 64,221,500 | 67,696,500 | 67,696,500 | 63,391,500 | 63,566,500 | 62,011,500 |
| Net Revenues and Expenses | (1,380,250) | 407,000 | 67,500 | 1,928,500 | 874,500 | 1,784,500 | 7,796,500 | 8,932,500 | 12,002,500 |
| JETS | | | | | | | | | |
| REVENUES | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| EXPENSES | - | - | - | - | - | - | - | - | - |
| Revenues and Expenses | - | - | - | - | - | - | - | - | - |
| Sale of Jets | 1,000,000 | - | - | - | - | - | - | - | - |
| Net Revenues and Expenses | 1,000,000 | - | - | - | - | - | - | - | - |
| RECYCLING FACILITY | | | | | | | | | |
| REVENUES | | | | | | | | | |
| Dual Stream Acceptable Recyclables | \$ 25,575 | \$ 25,575 | \$ 25,575 | \$ 25,575 | \$ 25,575 | \$ 25,575 | \$ 25,575 | \$ 25,575 | \$ 25,575 |
| Single Stream Acceptable Recyclables | 680,000 | 680,000 | 680,000 | 680,000 | 680,000 | 680,000 | 680,000 | 680,000 | 680,000 |
| Container Per Ton Sales Revenue | 261,450 | 261,450 | 261,450 | 261,450 | 261,450 | 261,450 | 261,450 | 261,450 | 261,450 |
| Paper Per Ton Sales Revenue | 319,550 | 319,550 | 319,550 | 319,550 | 319,550 | 319,550 | 319,550 | 319,550 | 319,550 |
| Total Revenues | 1,287,000 | 1,287,000 | 1,287,000 | 1,287,000 | 1,287,000 | 1,287,000 | 1,287,000 | 1,287,000 | 1,287,000 |
| EXPENSES | | | | | | | | | |
| Transportation Expense | \$ 455,000 | \$ 465,000 | \$ 475,000 | \$ 475,000 | \$ 475,000 | \$ 475,000 | \$ 475,000 | \$ 475,000 | \$ 475,000 |
| Insurance & Overhead | 37,000 | 38,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 | 40,000 |
| Direct Salaries/Labor & Benefits - Administration | 48,000 | 49,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 |
| Direct Salaries/Labor & Benefits - Operational | 277,000 | 284,000 | 293,000 | 293,000 | 293,000 | 293,000 | 293,000 | 293,000 | 293,000 |
| Balance of Expenses | 499,000 | 499,000 | 499,000 | 499,000 | 499,000 | 499,000 | 499,000 | 499,000 | 499,000 |
| Total Expenses | 1,316,000 | 1,335,000 | 1,357,000 | 1,357,000 | 1,357,000 | 1,357,000 | 1,357,000 | 1,357,000 | 1,357,000 |
| Net Revenues and Expenses | (29,000) | (48,000) | (70,000) | (70,000) | (70,000) | (70,000) | (70,000) | (70,000) | (70,000) |
| PROPERTY DIVISION | | | | | | | | | |
| REVENUES | | | | | | | | | |
| South Central Facility Capacity | \$ 239,000 | \$ 239,000 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Wheelabrator Lease (Bridgeport Land Lease) | | | | | | | | | |
| Jets Billboard | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 |
| Education | - | - | - | - | - | - | - | - | - |
| Total Revenue | 281,000 | 281,000 | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 |
| EXPENSES | 1,637,000 | 1,437,000 | 1,143,000 | 1,143,000 | 1,143,000 | 1,143,000 | 1,143,000 | 1,143,000 | 1,143,000 |
| Total Revenues and Expenses | (1,356,000) | (1,156,000) | (1,101,000) | (1,101,000) | (1,101,000) | (1,101,000) | (1,101,000) | (1,101,000) | (1,101,000) |
| NET PRESENT VALUE OF CASH FLOWS | | | | | | | | | |
| CASH FLOW | \$ (1,765,250) | \$ (797,000) | \$ (1,103,500) | \$ 757,500 | \$ (296,500) | \$ 613,500 | \$ 6,625,500 | \$ 7,761,500 | \$ 10,831,500 |
| Net Present Value of Cashflows (Includes 2016-2024) | \$ 8,673,030 | | | | | | | | |

Table 4-5
Case 1

4.5 The Harrisburg, Pennsylvania Resource Recovery Facility Sale

An example of the sale of a resource recovery facility for the Authority to consider is the situation that has played out in Harrisburg, Pennsylvania. Below is presented a summary of what has happened. Because the situation is so fundamentally different from that facing CRRA, the sale price there is no guide to the Authority in determining what the sale price of the CSWS would be.

The methodology used to reach the sales price is instructive and is essentially the discounted cash flow method used in this modeling. The difference, as will be discussed, is that the purchaser, the LCWMA, was able to lock in values for a substantial amount of the critical revenue (82 percent) and expense items. In contrast to the models provided above, which rely upon possible forecasts and assumptions as to what values a purchaser might place on the critical variables, LCWMA knows the values of those key terms. The LCSWMA will then be able to input actual numbers into their model. At the time of sale of the acquisition bonds, they will input the actual interest rates and derive a purchase price that is supported by the cash flows.

The Situation

Harrisburg constructed an 800 ton per day mass burn waste-to-energy facility. As a result of problems with the original construction and subsequent retrofit, the facility accumulated, as of the date of the settlement now being implemented, a total of 362.52 million of outstanding bonds and other debt obligations. The sheer size of this amount of debt, which could not be supported by the resource recovery facility, caused Harrisburg to file for bankruptcy.

A rescue plan was developed for the city under which the resource recovery facility is being sold to the LCSWMA for between \$126 and \$132 million. The proceeds of the sale, plus the proceeds of a “parking transaction” under which Harrisburg essentially borrows against future parking revenues in return for a substantial upfront payment will be used to effect settlements with most significant creditors. The creditors will not receive 100 cents on the dollar.

Rescue Plan’s Major Components

The waste-to-energy part of the rescue plan contains the following major contractual arrangements:

1. An Operating Agreement with Covanta to operate the resource recovery facility.
2. A Waste Disposal Agreement between Harrisburg and LCSWMA under which Harrisburg delivers all of its waste to the resource recovery facility for a fee of \$195/ton initially.
3. A 20-year Cooperation Agreement between LCSWMA and Dauphin County (the home county of Harrisburg) under which Dauphin County guarantees certain minimum levels of revenue each year to LCSWMA from tipping fees or otherwise. Dauphin County is also responsible for the cost of ash transport and disposal after an initial 54-month period. Finally, LCSWMA is to borrow \$24 million in non-recourse, subordinated loan guaranteed by Dauphin County, on which Lancaster County will pay 1/3 of the annual interest and Dauphin County 2/3. At the end of the 20 years, if Dauphin County continues

flow control, Lancaster County has the option to pay the principal (\$24 million) and keep the resource recovery facility or to convey the resource recovery facility to Dauphin County.

4. In addition, as part of the Cooperation Agreement, LCSWMA will receive an \$8 million grant from the State that, together with \$8 million to be released from the resource recovery facility bonds trust indenture, will be used to make capital improvements to the facility. These funds have permitted a corresponding \$16 million increase in the purchase price.
5. A Power Purchase Agreement with the Pennsylvania State Department of General Services under which the State will purchase the capacity and essentially all of the electrical output of the resource recovery facility. The Agreement is for 20 years with the price of electricity rising from \$.0422 to \$.07169 in the last year

5. Business Model Scenarios

The CRRA has been directed to prepare a Transition Plan that presents a sustainable business model for CRRA. CRRA has identified eight potential business models that range from CRRA’s dissolution to CRRA’s continued operation of an integrated solid waste management system. CRRA has outlined issues to be considered in all business models and has presented benefits and consequences associated with each model.

The following models are the potential organizational alternatives for CRRA going forward and are summarized in Table 5-1 below:

1. Base Case: CRRA does not mitigate the financial gap, and continues to operate the South Meadows Facility through FY 2015.
2. CRRA continues with existing South Meadows Facility and transfer stations operations, mitigating the financial gap with one or more options presented in the 5-Year Authority Operating Forecast (Exhibit C).
3. CRRA is dissolved. The South Meadows Facility, transfer stations and recycling facilities are all sold to other parties who continue to operate these facilities.
4. CRRA is dissolved. The South Meadows Facility is closed. The transfer stations and recycling facilities are sold to other parties who continue to operate them.
5. CRRA continues. CRRA assets, other than the South Meadows Facility, transfer stations and recycling facilities, are sold.
6. CRRA is dissolved. MSW operations cease. The South Meadows Facility is shut down and dismantled.
7. CRRA continues. The South Meadows Facility is converted into alternative disposal facility or facilities using a technology or technologies.
8. CRRA continues. The South Meadows Facility is converted into a transfer station.

Table 5-1 Business Model Scenarios

| Business Model | South Meadows Facility Ownership | South Meadows Facility Status | Transfer Station Ownership | Other Facilities | Status of CRRA | Other Assets |
|-----------------------|---|--------------------------------------|-----------------------------------|-------------------------|-----------------------|---------------------|
| 1 | CRRA | Operating until 2015 | Private | Private | Operating until 2015 | Sold |
| 2 | CRRA | Operating | CRRA | CRRA | Operating | Remain |
| 3 | Private | Operating | Private | Private | Dissolved | Sold |
| 4 | State | Mothballed | Private | Private | Dissolved | Sold |
| 5 | CRRA | Operating | CRRA | CRRA | Operating | Sold |
| 6 | State | Dismantled | Private | Private | Dissolved | Sold |
| 7 | CRRA | Alternative Technology | CRRA | CRRA | Operating | Remain |
| 8 | CRRA | Transfer Station | CRRA | CRRA | Operating | Remain |

CRRA's legal counsel has identified a variety of statutory questions that may prohibit the realization of a number of the alternatives described above and analyzed below.⁶

Issues to Be Considered

The following are issues (non-statutory) that apply to some or all alternatives that dissolve or substantially alter the role of CRRA. They must be addressed or resolved in some fashion prior to their implementation.

1. There will be very significant transaction costs, time and effort to implement any course of action.
 - a. RFPs for sales or dispositions, new and renegotiated contracts if there are to be any agreements for future services provided, sales documents, lease arrangements, etc.
 - b. Selection or authorization of cognizant authorities
 - c. Transition of CRRA authorities and services to alternative providers
2. Impact to SCRRRA bonds and state guarantee backed by the state Capital Reserve Fund.
3. Sale of certain assets cannot be completed without external approvals, as CRRA has commitments to ISO-New England.
4. Issues involved with the MSAs and hauler contracts will have to be addressed.
 - a. Municipalities have contracts with CRRA that contain some attractive provisions and go out as far as 2027. Can the state abrogate these contracts? If not, can they be assigned to a private entity that acquires CRRA assets? What rights do municipalities have?
 - b. MSAs require service at cost. How is that resolved with a for-profit owner/operator who would require the opportunity to earn a profit? It would seem likely that all 51 MSAs would have to be renegotiated.
5. Remediation issues
 - a. The potential facilities to be disposed are all industrial sites. Environmental matters must be addressed prior to or as a part of any sale through remediation, insurance or indemnification to buyers by the state.
6. Litigation issues
 - a. CRRA is party to a variety of litigations. The litigation liabilities must be provided for or assumed by the state or any private entity acquiring CRRA assets. Liabilities must be indemnified or insulated prior to any significant disposition.
7. Claims issues
 - a. There are a number of significant claims against CRRA. As with the litigation, they must be provided for or assumed by the state or any private entity acquiring CRRA assets must be indemnified or insulated prior to any significant disposition.
8. Any actions taken will be difficult to modify or reverse and so must be carefully considered.
9. There will be the loss of up to 150 Connecticut-based jobs.
10. As a publicly controlled organization, CRRA charges its MSA customers on a Net Cost of service basis. This has the effect of limiting tipping fees in Connecticut by creating a

⁶ See Exhibit K, Statutory Analysis of Dissolution and Sale of CRRA.

price ceiling. Without this moderating price influence, the two remaining private operators will be able to charge higher prices. Tipping fees will increase, to the all-in cost of export to out-of-state landfills, estimated at approximately \$80-\$100.⁷

11. CRRA's expertise and role in implementing the SWMP will be lost.
12. CRRA's statutory power for bonding and developing programs and facilities will be lost.

5.1 CRRA continues with existing recycling operations, development, South Meadows Facility operations and transfer station operations

5.1.1 Benefits

- a. Solid waste disposal continues to be set at Net Cost of operations at South Meadows, established ceiling on pricing in the state.
- b. MSW generated in central Connecticut continues to be disposed of in Connecticut at stable prices for the next five years.
- c. Tipping fees are projected to be in the \$61-\$72 per ton range, not including inflationary effects.
- d. No disruption to established patterns of MSW disposal (if the South Meadows Facility was to shut down, and unless the state provides a replacement, municipalities will need to conduct major procurements for MSW disposal).
- e. Continued sale of approximately 417 million kWh per year of reliable renewable energy. No need to replace with fossil fuel generation.
- f. Connecticut manages its own MSW and does not rely on other states to manage Connecticut's waste disposal.
- g. SWMP waste disposal hierarchy is maintained.

5.1.2 Consequences

- a. There are gap mitigation options that, if implemented, could result in negative consequences for certain stakeholders.⁸

⁷ See Exhibit D, Out-of-State Market Assessment, which concludes current out-of-state transfer and disposal prices range from \$70 to \$90/ton, plus an estimated \$10/ton transfer and loading costs.

⁸ See Exhibit C, 5-Year Authority Operating Forecast

5.2 CRRA is dissolved. The South Meadows Facility, transfer stations and recycling facility are all sold to another party that continues to operate these facilities

5.2.1 Benefits

- h. No disruption to established patterns of MSW disposal (if the South Meadows Facility was to shut down, and unless the state provides a replacement, municipalities will need to conduct major procurements for MSW disposal).
- a. Continued generation of approximately 417 million kWh of electric power. No need to replace with fossil fuel generation.
- b. Connecticut manages its own MSW and does not rely on other states to manage its waste disposal.
- c. Proceeds from sale, if any, of the South Meadows Facility site and other assets available to offset CRRA liabilities and claims.

5.2.2 Consequences

- a. Tipping fees in Connecticut are likely to increase, at least to the all-in cost of export to out-of-state landfills, approximately \$80-\$100.
- b. The purchase price for the South Meadows Facility may not offset the economic liabilities and claims associated with the facility.
- c. No buyer is likely without a substantial increase in tipping fees.

5.3 CRRA is dissolved. The South Meadows Facility is closed and is left in place. The transfer stations and recycling facility are sold.

5.3.1 Benefits

- a. Defers decommissioning costs of South Meadows Facility.
- b. Proceeds from sale, if any, of the South Meadows Facility site and other assets available to offset CRRA liabilities and claims.

5.3.2 Consequences

- a. Analysis shows that not all 720,000 TPY can be disposed of in Connecticut facilities. Up to 700,000 TPY will require export to out of state landfills.
- b. While small amounts of MSW diverted from the South Meadows Facility may be disposed of locally at competitive prices (due to topping off existing in-state RRFs' capacities), export of a significant amount will result in upward price pressures. \$80 to \$100 is the GBB estimate.
- c. Out-of-state disposal exposes Connecticut residents to increased costs from fees imposed by other states on landfill disposal.
- d. Will result in incremental greenhouse gas emissions - combination of methane generation at landfills, long haul truck emissions and CO₂ from replacement power generation.
- e. A significant portion of the approximately \$115,000,000 annual expense budget currently spent in Connecticut would be spent out of state (landfill tipping fees and trucking expenses). This will decrease incomes and taxes paid in Connecticut.
- f. Makes it more difficult or impossible to sell site. It will cost an estimated \$13-\$19 million to dismantle the building and bring the site to grade.⁹
- g. Established patterns of MSW disposal are disrupted (if the South Meadows Facility shuts down and unless the state provides a replacement, municipalities will need to conduct major procurements for MSW disposal)
- h. Approximately 417 million kWh of reliable electric power are lost and must be replaced with fossil fuel generation.
- i. The dissolution of CRRA and sale of assets would take several years to implement.
- j. Connecticut does not manage its own MSW and relies on other states to manage its waste disposal.
- k. The closed South Meadows Facility creates potential urban blight.

⁹ See Appendix H, Cost Estimate for Dismantling the South Meadows Facility.

5.4 CRRA continues. CRRA assets, other than the South Meadows Facility, transfer stations and recycling facility, are sold.

5.4.1 Benefits

- a. Revenues from sale of assets are available to offset CRRA liabilities.

5.4.2 Consequences

- a. Loss of flexibility in providing services.
- b. Loss of free cash flow from the Jets facility (approximately \$2.5 million) would no longer be available to subsidize tipping fees.
- c. Tipping fees would increase approximately \$6 per ton, as a result of 5.4.2.b.
- d. Sites for potential new facilities that may be necessary to implement the SWMP would be lost.
- e. The sale of assets would take several years to implement.

5.5 CRRA is dissolved. The South Meadows Facility is dismantled and removed. All remaining CRRA assets are sold.

5.5.1 Benefits

- a. Makes it easier to sell and redevelop the South Meadows Facility site.
- b. Proceeds from sale of assets are available to offset CRRA liabilities and claims.

5.5.2 Consequences

- a. Analysis shows that not all 720,000 TPY can be disposed of in Connecticut facilities. Up to 700,000 TPY will require export to out of state landfills.
- b. While small amounts of MSW diverted from the South Meadows Facility may be disposed of locally at competitive prices (due to topping off existing in-state RRFs' capacities), export of a significant amount will result in upward price pressures. \$80 to \$100 is the GBB estimate.
- c. Out-of-state disposal exposes Connecticut residents to increased costs from fees imposed by other states on landfill disposal.
- d. Will result in incremental greenhouse gas emissions - combination of methane generation at landfills, long haul truck emissions and CO₂ from replacement power generation.
- e. A significant portion of the approximately \$115,000,000 annual expense budget currently spent in Connecticut would be spent out of state (landfill tipping fees and trucking expenses). This will decrease incomes and taxes paid in Connecticut.
- f. Established patterns of MSW disposal are disrupted. If the South Meadows Facility shuts down and unless the state provides a replacement, municipalities will need to conduct major procurements for MSW disposal.
- g. Approximately 417 million kWh of reliable electric power are lost and must be replaced with fossil fuel generation.
- h. The dissolution of CRRA and sale of assets would take several years to implement.
- i. Connecticut does not manage its own MSW and relies on other states to manage Connecticut's waste disposal.
- c. Incurrence of remediating and dismantling costs (\$13-19 million)¹⁰

¹⁰ See Appendix H, Cost Estimate for Dismantling the South Meadows Facility.

5.6 CRRA continues. The South Meadows Facility is converted into an alternative disposal facility or facilities using an alternative technology or technologies

5.6.1 Benefits

- a. Solid waste disposal continues to be set at Net Cost of operations at South Meadows, established ceiling on pricing in the state.
- b. No disruption to established patterns of MSW disposal (if the South Meadows Facility was to shut down, and unless the state provides a replacement, municipalities will need to conduct major procurements for MSW disposal).
- c. Connecticut manages its own MSW and does not rely on other states to manage Connecticut's waste disposal.
- d. New technology implements the SWMP.
- e. Employment opportunity through construction and facility operation.
- f. If used as a totally alternative SWM Facility
 - i. No need to find new site
 - ii. Waste used to coming there
 - iii. Defers need to remediate
 - iv. If CRRA owned, all the Net Cost of service operations maintained.
- g. Preserves local solution for solid waste management, avoids transportation and disposal of waste at more distant facilities, such as out of state facilities. Avoided transportation reduces greenhouse gas emissions and traffic.
- h. Can use statutory powers of CRRA to implement project.
- i. Allows flexibility of producing electricity or fuels; potential for production of "green" chemicals. Production of fuels and green chemicals allows for creation of products with higher market value, and flexibility to adapt to changing product markets.
- j. Reduces potential for environmental impacts from air emissions, including greenhouse gas emissions

5.6.2 Consequences

- a. To be determined when new technology is identified, evaluated, and developed.

5.7 CRRA continues. The South Meadows Facility is converted into a transfer station.

5.7.1 Benefits

- a. Solid waste disposal continues to be set at Net Cost of operations at South Meadows, established ceiling on pricing in the state.
- b. No disruption to established patterns of MSW disposal.
- c. Employment opportunity through construction and facility operation.

5.7.2 Consequences

- a. Out-of-state disposal exposes Connecticut residents to increased costs from fees imposed by other states on landfill disposal.
- b. Will result in incremental greenhouse gas emissions - combination of methane generation at landfills, long haul truck emissions and CO2 from replacement power generation.
- c. A significant portion of the approximately \$115,000,000 annual expense budget currently spent in Connecticut would be spent out of state (landfill tipping fees and trucking expenses). This will decrease incomes and taxes paid in Connecticut.
- d. Approximately 417 million kWh of reliable electric power are lost and must be replaced with fossil fuel generation.
- e. Connecticut does not manage its own MSW and relies on other states to manage Connecticut's waste disposal.

5.8 Comparison of Business Model Scenarios

A comparison of the eight business model scenarios is provided in Table 5-2 Comparison of Business Model Scenarios. The table presents a relative comparison of the eight scenarios with respect to tipping fees, jobs, greenhouse gas emissions, truck traffic, the ability to implement the model, and how the scenario helps support the SWMP.

**Table 5-2
Comparison of Business Model Scenarios**

A qualitative comparison of the scenarios is shown in the following table.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------------------------|---|--|-----------------------------|---|--|---|---|---|
| Business Model | Base Case: CRRA does not mitigate financial gap, operates South Meadows through FY 2015 | CRRA continues, mitigating financial gap | CRRA dissolved, assets sold | CRRA dissolved, South Meadows mothballed, other assets sold | CRRA operates South Meadows, transfer station, recycling facilities, other assets sold | CRRA dissolved, South Meadows dismantled, other assets sold | CRRA converts South Meadows to alternative technology | CRRA converts South Meadows to transfer station |
| Tipping Fees | | Same or Higher | Higher | Higher | Higher | Higher | TBD | Higher |
| Connecticut Jobs | | Same | Same | Fewer | Same | Fewer | Same | Fewer |
| Greenhouse Gases | | Same | Same | Higher | Lower | Higher | Lower | Higher |
| Truck Traffic | | Same | Same | Higher | Same | Higher | Same | Higher |
| Challenges to Implementation | | Low | High | High | Low | High | Med | Med |
| Date of Implementation | | Immediate | 2016 | 2016 | Immediate | 2017 | 2020 - 2023 | 2015 - 2017 |
| Supports State Plan | | Yes | Partial | No | Yes | No | Yes | Partial |

6. Assessment of Reductions in CRRA's Expenses

Section 9 of Public Act 13-285 requires CRRA, in its Transition Plan, to detail and consider an assessment of the reductions in authority expenses, including but not limited to, management fees, labor costs, contract obligations and legal fees.

The following summarizes the Authority's efforts. Since the Enron situation in 2002, the Authority has continuously scrutinized its administrative and operating functions, activities and expenditures. In addition, with the transition of the Bridgeport, Wallingford and Mid-Connecticut Projects, staffing and functional activities have been under constant review during each budget cycle to recognize these changes. Listed below are a summary of many of the efforts undertaken that resulted in substantial savings. Many additional initiatives that resulted in less significant savings totals are not included.

- Reduction in budgeted personnel from 67 in 2008 to a budgeted 50 in 2014 or a **34 percent reduction**.
- Rather than purchase cover soils at an annual cost of \$500,000 CRRA arranged for the acceptance of CTDEEP-approved contaminated soil, which, for FY 2003 through 2011, resulted in incremental revenues of approximately **\$2.5 million**.
- In connection with the failed Enron transaction, recovered a significant portion of the losses with the receipt of an Enron claim from the bankruptcy court, which was subsequently sold to a major financial institution in FY 2005. The sale resulted in a premium of 34.4 percent over the bankruptcy courts' projected distribution amount. In total, **\$111.2 million was received** from the Enron claim sale.
- The operator of the Essex Transfer Station (along with transportation of waste from the Essex Transfer Station) was replaced, which generated **savings of \$1.05 million per year**.
- The operator of the Ellington Transfer Station (along with the transportation of waste from the Ellington Transfer Station) was replaced, which generated **savings of \$598,000 per year**.
- Received a favorable ruling from the Arbitration panel regarding certain claims by the MDC including non-payment of medical claims, reimbursement for dismissed workers and overcharging for indirect costs. The ruling stated that the Authority was not obligated to pay the MDC for certain claims and was entitled to **retain the full escrow amount of \$5 million** that had accumulated since 1999, and reduced future indirect costs that saved the Authority approximately **\$13 million** through the end of the contract with MDC.
- In December 2011, the contract with MDC to operate Mid-Connecticut's Waste Processing Facility terminated and a new five-year base contract with another operator was executed, **for a savings of \$22.6 million**.

- Realized **annual net savings of \$200,000** due to the operation and maintenance of the Mid-Connecticut Air Processing System (“MCAPS”) and another **\$100,000 on fuel savings annually** due to efficient usage of the MCAPS.
- Continuance of “direct haul” program with towns and/or their contracted waste haulers to deliver larger loads of MSW (100-yard trailers) directly to Mid-Connecticut’s Waste Processing Facility instead of the regional transfer stations. Bypassing the transfer stations eliminates the costs of double handling waste and reduces the transportation costs, which results in **annual waste transportation cost savings of \$125,000**.
- In 2004, completed relocation of administrative office, which **saved a net total of \$1.3 million through 2012**.
- Maintenance of costs of all insurance at the lowest possible rate by consistent education of the insurance brokers and insurance providers of the Authority’s unique operating facilities and programs. Because of these efforts, experience an overall **premium savings of nearly \$500,000** since 2001. (Insurances include Casualty, All-Risk Property, Fiduciary, Crime, Public Officials and Employee Liability Pollution Legal Liability.)
- Implemented post-burn ferrous recovery in April 2013 for **annual Net Cost savings estimate of approximately \$50,000**.
- In 2011, solicited and selected a new insurance broker/consultant for calendar years 2013 and 2014 and achieved **contract savings of \$33,000**.
- Every three years the Authority bids out all professional and technical services contracts. This assures the Authority of obtaining least cost purchases.
- In March 2005, fully defeased the Mid-Connecticut Project’s 2001 Series A and 1997 Series A Bonds (combined outstanding principal: \$15.3 million) and partially defeased \$81.5 million of the 1996 Series A Bonds (outstanding principal: \$150.9 million). This bond defeasance resulted in a **net interest savings of \$10.8 million** over the life of the three bond series.
- In July 2006, partially defeased \$54.1 million of the remaining \$69.4 million par balance of the 1996 Series A Bonds (current par balance of \$15.3 million). The July 2006 bond defeasance resulted in an **additional net interest savings of \$9.5 million** over the life of this bond series.
- Upon expiration of the Power Block Facility Operator Agreement with Covanta in May, 2012 selected a new operator (NAES) under a five-year base contract, which generates a **savings of \$22.9 million**.
- Reductions in City of Hartford Pilot from **\$5.1 million in 2012** to **\$2.2 million in 2014**.
- Elimination of CRRA employee merit increases in three (3) of the last five (5) years.
- Closure of the Ellington Transfer Station in 2013 for **annualized savings of \$500,000**.

- Increases in employee contributions to medical insurance premiums.
- Reduction in legal fees from \$3.1 million in FY 2013 to \$1.5 million FY 2014 Budget or a **reduction of 52 percent**.
- Reduction in budgeted communication services from \$275,000 in FY 2012 to \$55,000 in the FY 2014 Budget or a **reduction of 80 percent**.
- Reductions in budgeted grounds maintenance.
- Reductions in legal notices and events promotions.
- Eliminated the generation of process residue at the waste processing facility in November 2012 for annualized **savings of approximately \$4.7 million**.
- Shift to nighttime processing of RDF result in reduced contractor overtime and increased the amount of power that could be sold during on-peak hours.
- Various cost and efficiency improvements associated with plant operations at PBF, including pressure parts and combustion improvements.

7. Assessment of Financial & Legal Liabilities

Section 9 of Public Act 13-285 requires CRRA, in its Transition Plan, to detail and consider an assessment of said authority’s financial and legal liabilities and an evaluation of whether such liabilities may be eliminated or mitigated.

The following table describes the requested information and discusses strategies for either eliminating or mitigating the liability and/or claim.

Table 7-1 CRRA Financial and Legal Liabilities

| <u>Description</u> | <u>Elimination or Mitigation Strategy</u> |
|--|---|
| 1. Landfill Post Closure Obligations | A. Implement over next 30+/- years according to CTDEEP Program(s) B. Finalize transfer of obligations to state of Connecticut as outlined in Public Act 13-184 |
| 2. Customer Guarantee of Payments (GOP’s) | A. Return Funds B. Require Surety Bonds or Letter of Credit C. Establish and fund a Bad Debt Reserve |
| 3. Customer Prepayments | A. Return Funds B. Don’t accept future prepayments |
| 4. MDC Billings <ul style="list-style-type: none"> • Legal Bills • Other pre contract expiration billings • Post contract expiration claims | A. Process without obtaining requested support B. Continue arbitration to conclusion C. Negotiate a settlement |
| 5. Litigation Claims | A. Settlements B. Payment of Claims C. Arbitrate/Court Proceedings |
| 6. Contingencies – Legal | A. Resolve Issues |
| 7. South Meadows Remediation – Change Orders | B. Complete Work in Progress |
| 8. Pollution Insurance Legacy Costs | A. Continue 3 year Post Project Insurance B. Eliminate Insurance Coverage |
| 9. Environmental Ellington/Landfill Issue | A. Continue to Resolve Land Acquisition B. Terminate Effort and Await Future Outcome |
| 10. Mid-CT Risk Fund | A. Finalization of Litigation and Claims Through Process |

| | |
|--|--|
| 11. Ash Landfill Development Project Closure | A. Complete Compliant Abandonment of Franklin Site |
| 12. Employee Accrued Vacation and Carryover Time | A. Payout upon employee departure from CRRA |
| 13. Mid-CT Recycling Education Funds | A. Payment to City of Hartford in Accordance with Agreement B. Payment to City of Hartford without Appropriate Support |
| 14. Mid Connecticut Litigation Reserve | A. Resolve all Outstanding Matters |
| 15. Mid-Connecticut Transition Funds | A. Completion of Transition Invoices and Utilize Remaining Funds to address all Remaining Mid-CT Liabilities and Claims |
| 16. Combe Fill South – Legal and Claim Reserve | A. Continue until contribution claim Resolved |
| 17. Insurance Reserves (Risk Fund & Post Project Reserves) | A. Continue until likelihood of Post Project Claims Has Passed B. Assume No Potential Claims and Eliminate Reserve |
| 18. Stratford Capital Recycling Reserve (SWEROC) | A. Finalize Legal Responsibilities and Transfer Funds |
| 19. CTDEEP/OPM Costs for Section 7 of P.A. 11-385 | A. Establishment of Purchase Order B. Invoice from CTDEEP/OPM C. Identification of Funds Source and Board Action |
| 20. Legal – Post Project Wallingford | A. Completion of Legal/Operational Work for Approval by CTDEEP of the Transfer of Facility to Covanta |
| 21. Wallingford Escrow Reserve | A. Completion of an Approval by CTDEEP of Facility Transfer |
| 22. Various Operating Accounts (surplus) | A. Resolve all outstanding issues and refund to appropriate projects any remaining funds |
| 23. Connecticut River Sediment | A. Clarification with CTDEEP, CL&P and certifying party’s LEP regarding remediation responsibility, if any, for Connecticut River sediment |
| 24. Legal Firm Settlement Reimbursement Potential (Attorney General approval required) | A. Final Resolution of Global Lawsuit in Texas Court B. Avoid subsequent settlements which would trigger reimbursement |
| 25. Outstanding Accounts Payable, Accrued Payroll, Other Accruals | C. Payment of Invoices |

| | |
|---|---|
| 26. Enron Litigation Expense Reserve (Attorney General approval required) | A. Finalize Claim in Houston, TX Court B. Terminate Litigation |
| 27. Montville Landfill Post Closure Funds | A. Transfer of Funds to SCRRRA |
| 28. Shelton Landfill Future Use Reserve | A. Complete Work per Agreement B. Select Alternate Site in Consultation with DEP and City of Shelton |
| 29. CTDEEP Landfill Trust | A. Transfer Post Closure Landfill Obligation to state of CT |
| 30. Accrued Recycling Rebates | B. Issue Checks to Town C. Reverse Accrual |

8. Assessment of CRRA Operational Requirements

CRRA’s network of facilities under its direct management, shown in Figure 8-1, include four transfer stations, two recycling facilities, and a Resource Recovery Facility consisting of a front-end waste processing facility that manufactures a refuse derived fuel (RDF), and a power block facility designed to combust the RDF. CRRA provides oversight and administrative support for one other RRF project in the state. CRRA is also responsible for management of five landfills, four of which are closed, and one that is currently undergoing closure.

CRRA provides transparent information about these facilities, services, and its administration of same through its website, www.crra.org. In addition to providing links to past and current project documentation, and board meeting minutes, CRRA’s website also serves as a portal to public information, where they promote reduce, reuse, and recycle, and other general information about best practices for solid waste management.



Figure 8-1
Map of CRRA Facilities

8.1 Transfer Stations

CRRA has four transfer stations located throughout the state that support the South Meadows Facility. Table 8-1 lists the location of the four CRRA-owned transfer stations, and those municipalities served, or those that have been served in the past by each transfer station. CRRA suspended operations indefinitely at the Ellington Transfer Station at the end of 2012 due to a reduction in the amount of MSW delivered to the facility. The Essex, Torrington, and Watertown facilities are permitted to accept both MSW and source-separated recyclables (containers and paper fiber); the Ellington facility accepts MSW only.

CRRA owns three of the transfer stations, including the land on which they are situated. CRRA leases the land where the Essex Transfer Station is located from the Town of Essex. The Torrington Transfer Station is operated by Copes Rubbish Removal, Inc., and the Essex and Watertown Transfer Stations are operated by CWPM, LLC. CRRA maintains, and directly operates with CRRA personnel, the truck scales, data lines, and camera surveillance and access security systems at all of the transfer stations.

**Table 8-1
CRRA Transfer Stations**

| Transfer Station | Location | Capacity (tons/day) | Municipalities Served |
|-------------------------|------------------------------|----------------------------|---|
| Ellington | 217 Sadds Mill Rd, Ellington | 570 | East Windsor, Ellington, Enfield, South Windsor, Vernon |
| Essex | Town Dump Road, Essex | 645 (max of 25,000/QTR) | Chester, Clinton, CTDEEP River, Essex, Guilford, Haddam, Killingworth, Lyme, Madison, North Branford, Old Lyme, Old Saybrook and Westbrook |
| Watertown | Echo Lake Road, Watertown | 1070 (max of 41,600/QTR) | Beacon Falls, Bethlehem, Middlebury, Naugatuck, Oxford, Roxbury, Southbury, Thomaston, Waterbury, Watertown and Woodbury |
| Torrington | Vista Drive, Torrington | 650 | Canaan, Colebrook, Cornwall, Goshen, Harwinton, Litchfield, Middlebury, Morris, Norfolk, North Canaan, RRDD #1, Salisbury, Sharon, Torrington and Waterbury |

8.2 Recycling Infrastructure

The Hartford Regional Recycling Center is located at 211 Murphy Road in Hartford, Connecticut. The facility began operation in 1993. It is currently operated by ReCommunity/FCR, LLC under contract to CRRA and is permitted to receive and process up to 210 tons per day of commingled containers and 350 tons per day of paper fiber. It is equipped to accept “single stream” recyclables, i.e., both commingled containers and paper fiber delivered together in one mixed stream. This facility manages recyclables from most of the 51

municipalities currently under contract with CRRA, as well as recyclables from other municipalities that are delivered by private waste-hauling companies.

CRRA's Stratford facility, which serves as a recycling materials recovery facility, operated through June 2013, at which time operations were indefinitely suspended when former contract municipalities decided to direct their recyclables to an alternate service provider.

8.3 Municipalities

CRRA and its contractors, which operate the South Meadows Facility and transfer stations, provide oversight, operation and maintenance services to ensure that the facility continues to efficiently manage the MSW generated by the member municipalities and protect land, air and water resources and the public health. CRRA has Municipal Service Agreements (MSAs) with municipalities for use of the South Meadows facilities. Under the MSAs, municipalities commit to deliver their waste to the Authority. CRRA currently contracts with 51 municipalities to deliver (or indirectly direct the delivery) MSW and recyclables to CRRA's transfer stations, the South Meadows Facility, and the Hartford Recycling facility. In addition to these municipalities, approximately 50 private waste haulers throughout Connecticut have signed contracts enabling them to deliver MSW and recyclables to CRRA's system.

CRRA remits Payment-in-Lieu-of-Taxes (PILOT) payments to Hartford, Essex, Torrington, and Watertown in return for serving as host communities for CRRA's facilities.

8.4 Facility Operator Contracts

CRRA contracts for operation of the South Meadows Facility, transfer stations, and recycling facility.

In December 2010, CRRA entered into a contract with NAES Corporation for the operation of the South Meadows Facility ending in June 2016, with 10 one-year extensions at CRRA's sole option. The South Meadows Facility includes waste processing and power block/energy generating equipment that has been in continuous operation since 1988. CRRA contracts with CWPM, Inc. for operation of its Watertown and Essex transfer stations, and contracts with Copes Rubbish Removal, Inc. for operation of its Torrington transfer station. These operators are responsible for maintenance of the transfer stations. The term of the operation and maintenance agreements are from July 1, 2013 through June 30, 2014, with an option for four, one-year extensions.

CRRA also contracts with ReCommunity/FCR, LLC (FCR) for operation and maintenance of the Hartford Regional Recycling Facility. The contract term ends in 2017.

8.5 Other Contracts

In addition to the contracts between CRRA and its private waste hauling and municipal customers, and the O&M contracts for operation of its facilities, CRRA has numerous contracts

for professional and technical services such as legal counsel, financial auditing, human resources support, insurance brokerage, engineering and environmental consulting, power marketing, and environmental monitoring.

Additionally, CRRA has lease agreements for various parcels of real property, and personal property. CRRA leases property both to and from other parties (e.g., Hartford landfill and real property underlying the Bridgeport RRF).

CRRA has a contract with a subsidiary of Covanta Energy for up to 25,000 tons per year of disposal capacity at the Covanta RRF in Wallingford, at a favorable market price. CRRA utilizes this capacity to support its solid waste system when it is advantageous to do so.

8.6 Commitment to ISO-New England

CRRA is a member of ISO New England Inc. (ISO-NE). ISO-NE is the Independent System Operator responsible for reliably operating New England's bulk electric power generation and transmission system. ISO-NE monitors the status of the power grid for the six-state region comprised of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. While ISO-NE operates a number of ancillary markets, its primary markets are the (1) energy day-ahead and real-time markets; (2) forward capacity market (FCM); and (3) locational forward reserves market and real-time reserves market.

CRRA has six assets registered with ISO-NE; South Meadow jet turbine units 572, 573, 574, 575, and steam turbine units 580 and 581. Units 572-575 consist of four Pratt & Whitney FT4A-9 Twin-Pack generating sets each nominally capable of generating 40 megawatts (combined total of 160 megawatts). Steam turbine units 580 and 581 are nominally capable of generating 40 and 45 megawatts each (combined total of 85 megawatts). Steam turbine units 580 and 581 participate in the energy day-ahead/real-time market, and the forward capacity market. The jet turbine units 572 – 575 participate in the energy day-ahead/real-time market, the forward capacity market, and the real-time reserve market. CRRA has an agreement with NextEra Energy Power Marketing, LLC ("NextEra") to manage CRRA's power products. Under this agreement NextEra serves as CRRA's Lead Market Participant and as such is responsible for, among other activities, the scheduling, bidding and/marketing of the facilities' power products into the ISO-NE markets as applicable.

In summary, the FCM is an auction-based locational capacity market, with auctions held every year, three (3) years in advance of a designated commitment period (each commitment period is from June 1 through May 31 of each year). CRRA has participated in each of the Forward Capacity Auctions (FCA) since the auctions were established by ISO-NE in 2006. Note that because CRRA's generating units were existing resources at the time the FCAs were established, all six of CRRA's turbine generators are automatically placed into the annual auctions and will remain in all future auctions unless CRRA affirmatively takes the steps necessary to have the units' delisted/removed from future auctions. The capacity associated with all six (6) of CRRA's generating units is currently committed through the 2016/2017 year (June 1, 2016 through May 31, 2017). The FCA for the 2017/2018 commitment period will be held on February 5, 2014.

8.7 Federal, State and Local Permits

CRRA holds all necessary and applicable federal, state, and local permits for the operation of its facilities, including Solid Waste, Hazardous Waste, Air, Stormwater, Wastewater Discharge, Groundwater Discharge, Water Diversion, Wildlife, and local Zoning and Wetlands permits. CRRA has been issued numerous environmental permits for the following facilities:

- Hartford Landfill
- Ellington Landfill
- Shelton Landfill
- Wallingford Landfill
- Waterbury Bulk Waste Landfill
- Ellington Transfer Station
- Essex Transfer Station
- South Meadows Resource Recovery Facility
- Torrington Transfer Station
- Watertown Transfer Station
- South Meadows Jet Turbine Facility
- 211 Murphy Road Intermediate Processing Center
- Stratford Intermediate Processing Facility

8.8 Administrative Support to SCRRRA

The Southeastern Connecticut Regional Resources Recovery Authority (SCRRRA) comprises 12 member municipalities in southeastern Connecticut. In 1987, SCRRRA entered into an agreement with CRRA to construct and operate a 690 ton-per-day, mass burn, resources recovery facility on a 12-acre site located in Preston, Connecticut. The facility began operation in 1992, and provides solid waste disposal services to the 12 Project Municipalities through municipal service agreements.

CRRA provides administrative support to SCRRRA and the Southeast Project; CRRA was the conduit for the bond issuance that served to support development of the facility.

The MSAs and operating agreements will expire in February of 2017. The facility was designed and constructed by American REF-FUEL. The facility is owned by CRRA, and the facility site is owned by SCRRRA. CRRA and SCRRRA are parties to a Bridge and Management Agreement under which SCRRRA is obligated to deliver to the facility all acceptable waste generated within the boundaries of the Project Municipalities. As part of the facility's financing transaction, SCRRRA leased the facility to American REF-FUEL. Covanta Energy, Inc., as the successor to American REF-FUEL, has beneficial ownership of the facility through this arrangement, and at the end of the operating agreement term will have control over the capacity of this facility until the time its site lease with SCRRRA ends.

Ash residue from the Preston RRF is disposed at the Wheelabrator Putnam, Inc. ash residue landfill in Putnam, Connecticut. The contract between CRRA and Wheelabrator Technologies, Inc. provides for disposal of Preston RRF ash residue at the Putnam Landfill through June 30,

2015, with an option to extend for up to an additional 2.5 years (through December 2017). Ash residue disposal capacity for the Preston RRF was secured as part of the procurement process that was undertaken by CRRA during FY 2008 to obtain ash residue disposal capacity services for both the South Meadows Facility and the Preston RRF.

8.9 Administrative Support to Southwest Division Municipalities

CRRA provides disposal services to 12 of the former 20 Bridgeport Project Municipalities for disposal at the Wheelabrator facility located in Bridgeport. On December 31, 2008, CRRA and Wheelabrator Bridgeport entered into a First Amendment and Renewal of Site Lease, whereby Wheelabrator Bridgeport purchased CRRA's nominal interest in the facility.

8.10 Implementation of Solid Waste Management Plan

By statute, defined in CGS Section 22a-262, the purpose of CRRA is to implement the SWMP. Implementation includes planning, design, construction, financing, management, ownership, operation and maintenance of solid waste and related facilities, including resources recovery facilities, considered necessary to carry out the SWMP. CGS Section 22a-266 confers the following powers on CRRA:

- Bonding authority: A major asset that CRRA brings is its revenue bonding authority to finance facilities, regardless of whether the facilities are publicly or privately owned.
- Condemnation (Limited, CGS Sec. 22a-276): CRRA has the power to site ash landfills and can condemn land adjacent to solid waste facilities, although such condemnation may be subject to local zoning. If land is not adjacent to solid waste facilities, condemnation requires the concurrence of the municipality.
- Electric power supply: CRRA is able to function as a retail supplier of power with a license from the PURA.
- Waste facility development: With its powers to develop waste facilities, since its establishment, CRRA has constructed, operated and maintained four resources recovery facilities, 12 transfer stations, two recycling materials recovery facilities (MRFs), and five landfills. CRRA develops and operates its facilities by issuing tax-exempt bonds and charging tipping fees.

Since its establishment in 1973, CRRA has used these powers to implement major elements of the SWMP.

The state Solid Waste Management Plan (SWMP) (see the Executive Summary from the SWMP in Exhibit B) calls for reaching a number of goals that will require considerable development and investment to how solid waste is managed in Connecticut. The Authority is required by the SWMP to provide a significant enabling role to reach those goals. Fortunately, the Authority has the institutional tools, experience, intellectual property, and capability to finance, develop, operate, and manage resource recovery facilities, transfer stations, recycling facilities and landfills to help reach those goals sooner rather than later. The Authority's past track record for implementing several resources recovery facilities, transfer stations, landfills, recycling facilities,

electronics recycling, and education programs is a strong foundation from which to launch new efforts to help advance the SWMP. The Authority is ready to work closely with the CTDEEP to identify and plan what those efforts should be and how these two public purpose groups can work cooperatively for the benefit of Connecticut residents and the environment.

For example, at the Authority's South Meadows site, the Authority could advance opportunities for organics and/or C&D processing and recycling. These are the two materials that the SWMP identifies as most needed for new in-state infrastructure. The Authority could procure an AD facility to be privately developed and work with its member municipalities and haulers to help create a significant flow of organics for a new AD facility. The result would be increased diversion for recycling and the generation of renewable fuels for either use by vehicles in the greater Hartford area, sold to the natural gas supply grid, or perhaps used by the existing power producing jets already at South Meadows. Similarly, the South Meadows site, or another CRRA site, could be utilized for C&D recycling operations, a transfer station, an alternative conversion technology, or other processing and recovery activities. This facility could be privately developed.

With its history of providing education programs in Connecticut that have benefitted at least two generations of residents and helped elevate recycling to its current levels, the Authority could revitalize those kinds of services to help Connecticut residents and businesses reach out and change habits so that more solid waste is source separated as the SWMP dictates. The Authority could also help advance changes to how waste is collected in Connecticut, offering technical assistance and grants management to implement pay-as-you-throw and more efficient containerized and automated collection services.

CRRA generates a funding stream that is not associated with in any operating project. This funding stream is available for implementation, by CRRA, of the SWMP. At the present time, specifically during the execution of the present CRRA FY 2014 business plan, these non-project associated funds have been dedicated, by decision of the BOD, to maintaining a CSWS tipping fee at or below the MSA opt-out decision point price¹¹. The CRRA BOD can elect to utilize these non-project associated funds for other CRRA purposes, specifically SWMP initiatives, by electing to meet the revenue needs of the CSWS from other funding sources. Additionally favorable changes in market pricing of power could provide sufficient revenue to allow these non-project associated funds to be available for SWMP implementation.

Finally, in order to effectively enhance further implementation of the SWMP, additional authority for CRRA and/or for other authorities or agencies to allow for more decisive implementation of SWMP furthering initiatives would be optimal. Table 8-2 provides an outline of additional legislative authorities that would enhance CRRA's authorities to further advance the SWMP and this Transition Plan.

¹¹ This is projected to be approximately \$2.5 million annually. See Exhibit C.

**Table 8-2
Legislative Recommendations to Enhance CRRA’s Ability to Implement the SWMP and this Transition Plan**

| | |
|---|---|
| A. Enhance the observance of the SWMP waste hierarchy with the comprehensive assignment of the Solid Waste Assessment Fee (also known as dioxin tax, on all MSW and C&D waste not recycled) including those tons presently exported out of state. | |
| B. Provide for improved revenue for operating facilities and recognition of the benefit of renewable energy from waste by: | |
| i. | Increasing the three percent portfolio requirement for Class II renewable energy consistent with the increasing Class II portfolio requirement growth. |
| ii. | Allowing for RRFs to be granted enhanced Class II renewable credits for the portion of their generation that is created by combusting biogenic waste in recognition of the GHG net benefit. Require CT power suppliers source their purchases of Class II renewable credits in Connecticut and not in other New England states. |
| C. Adjust CRRA authority to allow for siting C&D recycling and recovery centers with attached landfill on CRRA owned land, with exemption from local zoning, similar to CRRA’s present authority for siting ash residue landfills. | |
| D. Provide enhanced siting authority for organics utilization facilities similar to CRRA siting authority for ash residue development. | |
| E. State bonding support for certain CRRA capital projects | |
| F. Review and elimination of redundant and/or obsolete statutory reporting and procedural requirements of CRRA | |
| G. | |

Beneficial development and financial capabilities presently reside in CRRA by virtue of CRRA’s statutory authority. These capabilities have been instrumental in the development of the existing infrastructure presently providing the resource (energy) recovery, recycling, renewable power, orphan waste programs, landfill closure and monitoring, landfill gas collection, solar power and education capabilities that have been the basis of the SWMP implementation to date. To be most effective, CRRA should be provided with enhancements to its present authorities, especially in the area of siting and development. Additional legislative initiatives to address specific policy effectiveness would substantially improve outcomes for the state and should be considered.

The Authority recognizes that the South Meadows Resources Recovery Facility has economic constraints driven primarily by the value of the power it sells. Additionally, as the objectives of the SWMP are achieved, waste destined for disposal will decrease in Connecticut and there should be more marginal disposal capacity available as time passes. Thus, CRRA will be continually running the risk of losing customers to private capacity that has more economic flexibility than the Authority has at South Meadows being both a large facility with less efficient and costly technology, lack of dedicated owned ash residue disposal, operating at Net Cost, and one whose tipping fee is significantly dependent on the price of power sold.

It is in the Authority's interest to consider advancing other technologies that have the potential to both extract material and fuel/energy value from the waste that is left after higher levels of waste reduction and recycling are achieved, and offer tipping fees lower than what is currently available. Today, there are other technologies being developed to produce fuel and chemical products instead of being power centric. There have been significant advances in application of new and emerging technology overseas, and in the United States and Canada during the past five years, and there are potential economic and environmental benefits with these technologies, however, there is limited operating data and cost information from these technologies at a commercial scale, and it is prudent to proceed with caution. The existing South Meadows Facility provides a reliable means to continue efficient solid waste management, serving as a bridge to future opportunities to be pursued by CRRA.

As reviewed in Exhibit H, there are several facilities and companies implementing significant commercial-scale facilities with these alternative technologies now, and their performance should be tracked closely. The Authority plans to monitor and evaluate these companies and technologies closely over the next few years. If and when they appear to have the necessary attributes to supplement and/or replace the South Meadows technology, the Authority can advance replacement capacity at a level in line with anticipating increases in diversion and reduction in the amount of disposal capacity needed, as CRRA works toward implementing the SWMP.

Of particular benefit is the Authority's South Meadows current infrastructure in that it could be modified to include a more extensive front-end processing system that alternative technologies require to create fuels from processed waste, while at the same time extracting significant quantities of recyclables. The South Meadows site is also large enough to support a campus of technologies: AD, C&D recycling, and alternative conversion technology.

8.11 Management of Closed Landfills

CRRA manages the closed Ellington, Shelton, and Wallingford MSW Landfills and the Waterbury Bulky Waste Landfill. The Hartford Landfill stopped receiving shipments of waste December 31, 2008 and is in the process of being closed. Closure is expected to be completed in FY 2014 and CTDEEP certification of closure at the end of FY 2014.

At the Hartford Landfill, CRRA will install photovoltaic panels on a six-acre section of the synthetic cap. CTDEEP approved a permit modification for the solar generation project in 2011, and the panels will have a capacity of one MW of power. The project was selected to receive zero-emission renewable energy credits, which will be sold to Connecticut Light & Power. The cost of the project will be covered by CRRA's dedicated landfill closure reserve. CRRA expects the closure project to be completed in 2014.

Information regarding CRRA's actions and responsibilities regarding its closed landfills is provided in Section 10.

9. Assessment of CRRA State-Wide Role

9.1 Connecticut 2006 Solid Waste Management Plan Update

In 2006, the CTDEEP approved amendments to the SWMP, replacing the existing SWMP dated 1991. The plan examines the state of solid waste management in Connecticut; establishes goals and objectives; identifies problems and barriers; and outlines strategies for achieving the goals. The plan will serve as the basis for solid waste management planning and decision-making for a 20-year planning horizon, for FY 2005 through FY 2024. The plan focuses primarily on MSW and C&D waste.

The SWMP sets three goals:

Goal 1: Significantly reduce the amount of Connecticut-generated solid waste requiring disposal through increased source reduction, reuse, recycling, and composting.

Goal 2: Manage the solid waste that ultimately must be disposed in an efficient, equitable, and environmentally protective manner, consistent with the statutory solid waste hierarchy.

Goal 3: Adopt stable, long-term funding mechanisms that provide sufficient revenue for state, regional, and local programs while providing incentives for increased waste reduction and diversion.

CTDEEP's SWMP establishes a number of voluntary goals, including the following:

- Eliminate in-state waste disposal capacity shortfalls by increasing MSW diversion to 58 percent (from 24 percent currently) and by reducing the waste generated per person from 0.8 tons annually to 0.6 tons per year. [However, it is important to note here that the state no longer has a disposal capacity deficit for MSW. The 2006 disposal capacity shortfalls cited in the 2006 SWMP have been eliminated due to the economic downturn since 2008 and the decline in waste generation. While there is a shortage of disposal capacity in Connecticut for construction and demolition (C&D) waste and ash, there is no longer a shortage for disposal capacity for MSW.]
- Triple the annual amount of waste diverted from disposal.
- Manage waste in an efficient, equitable and environmentally protective manner.
- Adopt long-range funding mechanisms that provide sufficient revenue to support the solid waste management system.¹²

The SWMP update Section 5.2.5.5 Role of the Connecticut Resources Recovery Authority (CRRA) includes the following paragraphs:

“Many of the significant issues that must be dealt with under this Plan will involve CRRA, and will be affected by the role to be played by CRRA.”

¹² http://www.ct.gov/dep/lib/dep/waste_management_and_disposal/solid_waste_management_plan/swmp_final_chapters_and_execsummary.pdf

Section 22a-262 of the General Statutes provides that “The purposes of the authority shall be:

- (1) *The planning, design, construction, financing, management, ownership, operation and maintenance of solid waste disposal, volume reduction, recycling, intermediate processing and resources recovery facilities and all related solid waste reception, storage, transportation and waste-handling and general support facilities considered by the authority to be necessary, desirable, convenient or appropriate in carrying out the provisions of the state solid waste management plan and in establishing, managing and operating solid waste disposal and resources recovery systems and their component waste-processing facilities and equipment;*
- (2) *The provision of solid waste management services to municipalities, regions and persons within the state by receiving solid wastes at authority facilities, pursuant to contracts between the authority and such municipalities, regions and persons; the recovery of resources and resource values from such solid wastes; and the production from such services and resources recovery operations of revenues sufficient to provide for the support of the authority and its operations on a self-sustaining basis, with due allowance for the redistribution of any surplus revenues...;*
- (3) *The utilization, through contractual arrangements, of private industry for implementation of some or all of the requirements of the state solid waste management plan and for such other activities as may be considered necessary, desirable or convenient by the authority;*
- (4) *Assistance with and coordination of efforts directed toward source separation for recycling purposes; and*
- (5) *Assistance in the development of industries, technologies and commercial enterprises within the state of Connecticut based upon resources recovery, recycling, reuse and treatment or processing of solid waste.*

Since its creation, CRRA has been focused on the provision, both directly and in partnership with others, of certain core solid waste services including the following:

- *transfer station operation*
- *RRFs*
- *ash residue disposal*
- *recycling*
- *household hazardous waste collection and disposal*
- *education*

CRRA has significantly increased its emphasis on recycling over the last few years. It has strengthened efforts to promote education at the state’s two waste museums in Hartford and Stratford, and it has increased efforts to recycle more waste such as paper and electronics. This experience may position CRRA to play a more significant role in the State’s efforts to meet its aggressive waste diversion goals, especially in those areas requiring new or expanded infrastructure such as additional types of paper recycling, C&D waste recycling, composting, and electronics recycling. In implementing these expanded programs, it will be important to work closely with other state agencies with business/economic development expertise and responsibilities. It is of note that CRRA has

not historically exercised its authority in all areas authorized by the law. In considering this Plan and its implementation, now is an appropriate time for the executive and legislative branches of State government, the State's municipalities, and CRRA itself, to evaluate the roles that CRRA, and potentially other State or quasi-state agencies could play in implementing this Plan.

Fulfilling Connecticut's waste management needs depends heavily on a close working relationship with and between the implementing agencies and the state's municipalities. This will be critical in such areas as assistance, contracting, disposal, and other key services. There must be a strong working relationship between Connecticut's municipalities and any entity ultimately charged with assisting the municipalities to meet their waste management obligations. Whether directly providing waste management services and infrastructure or indirectly assisting in areas such as education and acquisition of outside contract services, trust and clear roles need to be established. Due to the fragmentation of the state's municipalities into various authorities for waste management, and the recent history of CRRA's expansion into activities beyond their traditional roles, now is the time to reconsider the roles these various authorities can serve."

This SWMP proposes numerous strategies for achieving the state's long-term solid waste management goals. For planning purposes, as well as the prudent use of resources, it is essential that priorities among the SWMP's strategies be established. The relative importance of each strategy needs to be assessed given that resources will be insufficient to undertake all strategies simultaneously or to the fullest possible extent.

The SWMP includes the eight following objectives:

- **Source Reduction** – Catalyze shifts in consumer, business, product manufacturing, and solid waste processing practices that reduce the amount and toxicity of waste generated in Connecticut.
- **Recycling and Composting** – Move aggressively to strengthen Connecticut's public and private reuse, recycling and composting efforts and infrastructure to increase the quantity and quality of recovered materials and to build resilient, highly efficient and continually improving programs to reduce the amount of solid waste Connecticut disposes, both now and in the future. Therefore, Connecticut needs to maximize recycling and composting for all types of solid waste generated in the state. Throughout the plan, recycling includes composting and composting efforts refer only to the composting of source-separated organic material.
- **Management of Solid Waste Requiring Disposal** – Assure that the need for new disposal capacity is minimized, that existing solid waste facilities are used as efficiently as possible, and that the public is fully aware of the potential need for and impacts of disposal options and specific proposals, through a robust public participation process.
- **Management of Special Wastes and Other Types of Solid Waste** – Maximize source reduction, recycling, and beneficial use of special waste and other types of solid waste in a manner that protects human health and the environment; and also assure that special waste and other types of waste that require disposal are disposed in compliance with the

state's solid waste management hierarchy in facilities that meet all regulatory standards for protection of human health and safety, natural resources and the environment.

- **Education and Outreach** – Significantly increase awareness and understanding of waste management needs, impacts and the critical social, economic, and environmental issues facing Connecticut, and build support for programs to engage citizens in actions needed to maximize waste reduction and recycling and minimize the need for additional disposal capacity.
- **Program Planning, Evaluation and Measurement** – Enhance local, state and regional planning, measurement and program evaluation practices to drive continual progress towards achieving Connecticut's waste management goals.
- **Permitting and Enforcement** - Ensure that permitting and enforcement decisions promote the goals of the Plan and are made in a manner that is fully protective of human health and the environment; promote continuous improvement of the environmental permit application review and decision making process; achieve the highest level of environmental compliance through predictable, timely, and consistent enforcement and effective compliance assistance where appropriate; and improve communication with municipalities, business, industry, and the public on the regulatory process in order to facilitate and improve compliance with environmental requirements.
- **Funding** – Adopt stable, long-term funding mechanisms that provide sufficient revenue for state, regional and local programs while providing incentives for increased source reduction and recycling.

CRRA has increased its emphasis on recycling since the issuance of the SWMP, through emphasis on education, programs designed to promote recycling of all materials, and utilizing modern practices at its facilities. CRRA has worked with regional authorities, haulers, municipalities, the private sector, and the state in development and coordination of its programs and services aimed to meet the SWMP's diversion goals. As CRRA moves forward, implementing expanded programs and modification of services to best meet the public need, it will continue to be important to work closely with other state agencies and the private sector with business/economic development expertise and responsibilities. Legislative branches of state government, municipalities, and CRRA itself all will need to coordinate to appropriately evaluate the roles that CRRA, and potentially other state or quasi-state agencies will play in implementing the SWMP. As the primary focus of each of these groups at the current time is different (e.g. municipalities may be primarily focused on the cost of services, while CTDEEP has environmental and regulatory priorities), CRRA will need to communicate its needs effectively to these groups, and work within its statutory powers to best serve its municipalities and haulers.

9.2 Bonding

CRRA may issue bonds and use the proceeds of the bonds for the purposes and powers set forth in Chapter 446e, including waste management projects, landfill restoration projects, recycling facilities, and electric supply facilities. CRRA's purposes and powers are very broad and include both solid waste disposal and recycling. CRRA has legislative authorization to be the state's primary issuer for recycling facilities. Municipal Resource Recovery Authorities (MRRA) under Chapter 103b, can issue bonds for many of the same purposes, but difficult for MRRA to assemble sufficient product commitment and energy contracts to generate revenue to support

bond issue. CRRA is the state's only issuer that can issue solid waste bonds backed by the state's pledge to fund a Special Capital Reserve Fund (SCRF).

9.2.1 Transition Plan Effect on Role

CRRA is a recognized issuer of solid waste bonds in CT, issuing over \$575 million in bonds since it was created. CRRA executive team has the necessary experience (i) to manage solid waste and recycling facilities, and (ii) to issue debt, both conduit and direct, to finance such projects.

Under Section 22a-261(l), CRRA is statutorily required to remain in existence as long as its bonds or other obligations remain outstanding. If CRRA is terminated, all rights and properties (e.g. Mid-Conn Facility) are transferred to the state.

9.3 Education

Since 1993, CRRA has been providing education and outreach programs to the public. These programs promote waste reduction, recycling and environmental awareness. One of CRRA's most notable educational tools is the Trash Museum in Hartford and the CRRA Garbage Museum in Stratford. The CRRA Garbage Museum is known around the world its innovative and informative exhibits. .

CRRA has also developed a number of educational programs that explain the science behind recycling and responsible waste management. Today those programs are aligned with the state science education curriculum standards and are used in classrooms all around the state.

More than 804,000 people of all ages have participated in CRRA education programs. The effectiveness of CRRA's education programs has been recognized with the National Recycling Coalition's Beth Brown Boettner Award for Outstanding Public Education and the Innovation Prize from the Connecticut Quality Improvement Partnership.

9.3.1 Transition Plan Effect on Role

The SWMP uses the word "education" 194 times, the word "outreach" 87 times, and the word "awareness" 21 times. Clearly, the SWMP recognizes the importance of education and outreach in changing public behavior and achieving the state's waste reduction and recycling goals.

Effective education and outreach programs require dedicated funding. In the past, CRRA has received grant funding, most notably from the Connecticut Energy Efficiency Fund and the U.S. Institute of Library & Museum Services. However, the bulk of CRRA education program funding comes from CRRA's operating revenues supplemented by fees for walk-in admissions, group programs and merchandise sales.

The Transition Plan anticipates CRRA will, at a minimum, implement budget gap mitigation measures. These gap mitigation measures may stress CRRA's ability to adequately fund effective education and outreach throughout the state. It is recommended that the state, working

with CRRA, identify a dedicated source of education and outreach funds to support and sustain effective education and outreach programs to implement the SWMP.

9.4 Development

As noted in Section 10.1 above, the state's General Statutes identify one of CRRA's primary purposes is the planning, design, construction, and financing of solid waste disposal systems. For over 40 years, CRRA has fulfilled this statutory purpose by planning, designing, constructing and financing a system of transfer stations, resources recovery facilities, and landfills across Connecticut. CRRA has been involved in development of four resources recovery projects, four transfer stations, and two recycling facilities.

The systems CRRA developed provide the state with safe, reliable, environmentally sound, and cost-effective solid waste disposal. These systems help the state recycle materials, provide renewable energy, maintain self-sufficiency, and limit cost and pricing power in a constrained disposal market with its solid waste disposal.

9.4.1 Transition Plan Effect on Role

The statutes that provide CRRA with the authority to develop programs or facilities remain in effect. CRRA is in the unique position of having the authority and expertise to develop new programs or facilities in support of the state's goals for enhanced waste reduction and recycling, such as C&D recycling in association with a C&D landfill, and organics management facilities. To the extent these new programs are not economically viable, the state will need to provide economic or regulatory assistance in support of these programs.

10. Assessment of Post-Closure Responsibilities and Liabilities of Landfills under CRRA Care and Control

10.1 CRRA and Its Landfills

CRRA has acquired and/or constructed four MSW¹³ landfills (Ellington, Hartford, Shelton and Wallingford) and one bulky waste¹⁴ landfill (Waterbury). The Ellington, Shelton and Wallingford MSW Landfills and the Waterbury Bulky Waste Landfill are closed and have received certification of closure from CTDEEP. The Hartford Landfill stopped receiving shipments of waste December 31, 2008 and is in the process of being closed. Closure is expected to be completed in FY 2014 and CTDEEP certification of closure at the end of FY 2014 (approximately June 30, 2014).

10.1.1 Ellington Landfill

The Ellington Landfill is a 28-acre site that a private owner developed and began to operate for the disposal of MSW in 1966. CRRA became the owner of the landfill in 1986. CRRA used the landfill for MSW and bulky wastes until 1991 when CRRA opened an MSW transfer station adjacent to the site. CRRA continued to use the landfill for non-processible waste¹⁵ until CRRA completely stopped deliveries of waste to the landfill in June 1993. The landfill was certified by CTDEEP as closed in October 1998.

10.1.2 Hartford Landfill

The City of Hartford began to operate the Hartford Landfill on an 80-acre site in the 1940's to dispose of MSW, non-processibles, bulky waste and incinerator ash¹⁶. CRRA leased the landfill from the city in 1982 as part of the development of CRRA's South Meadows Facility and continued disposing of the same types of waste. This area is known as the MSW/Interim Ash Area.

In 1998, CRRA finished construction and began operation of a new, 16-acre, lined area to dispose of MSW combustor ash. This area is known as the Phase I Lined Ash Area and was used to dispose of ash residue from the South Meadows Facility. In 2002, CRRA received from CTDEEP a permit modification for a vertical expansion of the Lined Ash Area¹⁷. This expansion

¹³ The term "municipal solid waste" refers to a type of solid waste, not its ownership. In Connecticut regulations, "municipal solid waste" is defined as "solid waste from residential, commercial, industrial and institutional sources, excluding solid waste consisting of significant quantities of hazardous waste, landclearing debris, biomedical waste, sewage sludge and scrap metal" (Regulations of Connecticut State Agencies (RCSA) Section 22a-209-1).

¹⁴ Connecticut regulations define "bulky waste" as "landclearing debris and waste resulting directly from demolition activities other than clean fill" (RCSA 22a-209-1).

¹⁵ Non-processible waste is waste that could not be processed at the Resource Recovery Facility in Hartford and includes items such as furniture, carpets, mattresses and other oversized materials.

¹⁶ The term used in CTDEEP regulations for incinerator ash is "residue" which is defined as "bottom ash, air pollution control residue, and other residues from the combustion process at resource recovery facilities, municipal solid waste incinerators, and biomedical waste incinerators" (RCSA 22a-209-1).

¹⁷ Permit Modification No. SW-0640546, May 28, 2002.

significantly increased the capacity of the Area (by 575,000 cubic yards) and CRRA was able to continue to accept MSW combustor ash through December 2008, after which ash disposal was stopped consistent with the closure plan for the landfill. The capping and closure of the Phase 1 Lined Ash Area is now complete and CRRA anticipates the closure will be certified by CTDEEP in conjunction with the certification of the MSW/Interim Ash Area no later than the end of FY 2014.

A February 2007 agreement between CRRA and the City of Hartford resolved a long-standing dispute between CRRA and the city about responsibility for post-closure monitoring and maintenance. Under the agreement, CRRA is responsible for the 30-year post-closure monitoring and maintenance of the Landfill.

In March 2007, CTDEEP approved CRRA's application for a permit modification for the MSW/Interim Ash Area, which adopted a new closure plan for the Area.¹⁸ Under the new closure plan, additional capacity became available through a change in the grading of a portion of the Area. This additional capacity was sufficient for CRRA to continue to accept material through December 2008. The new closure plan specified that CRRA not take any additional waste into the Hartford Landfill after December 31, 2008. CRRA anticipates that closure of the MSW/Interim Ash Area will be certified by CTDEEP no later than June 2014 (at the end of FY 2014).

10.1.3 Shelton Landfill

A private owner/operator began waste disposal operations at the Shelton Landfill in the 1960's. The disposal of MSW by the private owner/operator used approximately 38 acres of the 110-acre site. CRRA purchased the landfill in November 1983 in connection with the development of the CRRA Bridgeport Project. CRRA placed MSW combustor ash on top of the 38-acre area that was previously used for the disposal of MSW. Most of this area of the landfill is known as the MSW/Interim Ash Area. This area stopped receiving waste in August 1994 and was certified by CTDEEP as closed in October 1997.

A 1.7-acre portion of the 38 acres previously used for MSW was used by the private owner/operator for the disposal of metal hydroxide sludge, a hazardous waste. This area is known as the Metal Hydroxide Cell. This area stopped receiving waste in 1983 and was certified by CTDEEP as closed in October 1989.

CRRA developed two lined areas for the disposal of MSW combustor ash at the landfill: a seven-acre area on the southeast part of the site and a 3.5-acre area on the northeast part. These areas are known respectively as the Southeast and Northeast Lined Ash Areas. The Southeast Area began to receive waste in August 1994 and stopped receiving waste in June 1996. The Northeast Area began to receive waste in June 1996 and stopped receiving waste in February 1998. Both the Northeast and Southeast Lined Ash Areas were certified as closed by the CTDEEP in April 2001. Beginning with the Annual Evaluation for FY 2001, the closure and post-closure care expenses for the two lined ash areas had been combined.

¹⁸ Permit No. 0640824-M, March 29, 2007.

In September 2009, CTDEEP issued to CRRA a Stewardship Permit¹⁹ for the Shelton Landfill. The Shelton Landfill is subject to the Stewardship Permit program because of the presence of the 1.7-acre Metal Hydroxide Cell. A Stewardship Permit is a site-wide permit and applies to the entire landfill, not just the Metal Hydroxide Cell. In general, the Stewardship Permit incorporates and subsumes permit conditions and regulatory requirements formerly found in the solid waste and groundwater discharge permits for the landfill, in addition to the requirements specified in the hazardous waste regulations.

The Stewardship Permit for the Shelton Landfill specifies that the 30-year period of post-closure maintenance and monitoring for the entire landfill began April 27, 2001, the date CTDEEP certified closure of the Northeast and Southeast Lined Ash Areas.

10.1.4 Wallingford Landfill

The 82-acre Wallingford Landfill was operated by the Town of Wallingford for the disposal of a mix of solid waste streams from the early 1950's until CRRA leased the landfill from the town in 1985. The Wallingford Landfill is closed and is no longer accepting waste. The final area of the landfill was closed by CRRA in 2002 and was certified by CTDEEP as closed in February 2005.

There are five distinct disposal areas comprising approximately 37 acres at the Wallingford Landfill:

- The 14.5+/- acre MSW Area that was operated and closed by the town;
- The 5+/- acre Bulky Waste Area on the northeast side of the site that was closed by CRRA;
- The 3+/- acre Metal Hydroxide Sludge Area at the northern end of the site that was closed by the town;
- The 8.3+/- acre Ash Residue Area on the south side of the site that was developed, operated and closed by CRRA; and
- The 6.4+/- acre Emergency Bypass/Non-Processibles Area southwest of and adjacent to the MSW Area that was closed by CRRA.

The first, second and fourth areas are collectively known as the MSW/Ash Area. Waste was last received in this area in 1995. The fifth area, the Emergency Bypass/Non-Processibles Area was the last one to be closed.

In September 2009, CTDEEP issued to CRRA a Stewardship Permit to CRRA for the Wallingford Landfill. The Wallingford Landfill is subject to the Stewardship Permit program because of the presence of the Metal Hydroxide Sludge Area. A Stewardship Permit is a site-wide permit and applies to the entire Landfill, not just the Metal Hydroxide Sludge Area. In general, the Stewardship Permit incorporates and subsumes permit conditions and regulatory requirements formerly found in the solid waste and groundwater discharge permits for the landfill, in addition to the requirements specified in the hazardous waste regulations.

¹⁹ A Stewardship Permit is the state equivalent of a RCRA Part B Post-Closure permit under EPA's hazardous waste program.

The Stewardship Permit for the Wallingford Landfill specifies that the 30-year period of post-closure maintenance and monitoring for the entire landfill began February 28, 2005, the date CTDEEP certified closure of the Northeast and Southeast Lined Ash Areas.

10.1.5 Waterbury Bulky Waste Landfill

The 5.6-acre Waterbury Bulky Waste Landfill was acquired by CRRA from a private owner/operator in 1986. The landfill last received waste in September 2000 and CRRA completed closure of the landfill in November 2008. CTDEEP issued a certificate of closure for the landfill on November 19, 2009.

10.1.6 Landfill Milestones

Table 10-1 below provides a summary of two of the major milestones for each of CRRA's landfills. The table indicates the date the landfill (or a specified area of the landfill) stopped receiving waste and the date that CTDEEP certified the landfill as closed.

**Table 10-1
Landfill Milestones**

| Landfill | End of Waste Receipts (or Expected End of Waste Receipts) | | Closure Certified (or Expected to be Certified) by CTDEEP | | Calendar Year During Which 30-Year Monitoring Period Ends |
|---|---|-------------|---|-------------|---|
| | Date | Fiscal Year | Date | Fiscal Year | |
| Ellington | Jun 1993 | 1993 | Oct 1998 | 1999 | 2028 |
| Hartford MSW/Interim Ash Area | Dec 2008 | 2009 | Jun 2014 | 2014 | 2044 |
| Phase I Lined Ash Area | Nov 2008 | 2009 | Jun 2014 | 2014 | |
| Shelton MSW/Interim Ash | Aug 1994 | 1995 | Oct 1997 | 1998 | 2031 |
| Metal Hydroxide Cell | Apr 1983 | 1983 | Oct 1989 | 1990 | |
| Southeast Lined Ash Area | Jun 1996 | 1996 | Apr 2001 | 2001 | |
| Northeast Lined Ash Area | Feb 1998 | 1998 | Apr 2001 | 2001 | |
| Wallingford MSW/Ash Area | Nov 1995 | 1996 | Feb 2005 | 2005 | 2035 |
| Metal Hydroxide Sludge Area | Jan 1984 | 1984 | May 1986 | 1986 | |
| Emergency Bypass/Non-Processibles Area | Apr 2000 | 2000 | Feb 2005 | 2005 | |
| Waterbury | Jul 2008 | 2009 | Nov 2009 | 2010 | 2039 |

When an MSW landfill stops accepting waste, the owner of the landfill is required to cover the landfill to keep liquid away from the buried waste.²⁰

²⁰ 40 CFR 258.60; RCSA 22a-209-13; RCSA 22a-209-14(i).

10.2 Post-Closure Responsibilities & Liabilities Associated with CRRA Landfills

Once the landfill is closed, the owner is responsible for maintaining the final cover, monitoring groundwater and methane gas and managing leachate for 30 years.²¹ The post-closure care maintenance and monitoring activities at CRRA's landfills include activities such as the following:

- Site inspections
- Land surface care
- Groundwater and stormwater monitoring
- Leachate management system operation, maintenance and monitoring
- Landfill gas collection and control system operation, maintenance and monitoring
- Maintaining security systems and facilities
- Remediation
- Providing utility services
- Obtaining necessary permits

CRRA has established cost estimates for undertaking the required post-closure care and maintenance activities for the 30-year post-closure maintenance and monitoring period for each landfill, and has reserved funds dedicated to pay for these activities during such post-closure period.

Exhibit L includes a summary of the property and infrastructure at each of CRRA's landfills; a listing of lease and access agreements; a listing of O&M activities and tasks; a list of permits, licenses and authorizations; a summary of post-closure cost estimates; and a listing of permit required events, reports, submittals, activities, etc. for FY 2014.

10.3 State of Connecticut Assumption of Liability

On June 5, 2013 the General Assembly passed legislation that requires CTDEEP and CRRA to negotiate a Memorandum of Understanding ("MOU") by which the department will assume all legal obligations resulting from the closure of the Ellington, Hartford, Shelton, Wallingford, and Waterbury landfills.²² At the same time, the General Assembly is requiring CRRA to transfer up to \$35,000,000 to the state of Connecticut general fund.²³

CRRA anticipates that the transfer of funds from CRRA to the state's general fund in accordance with Section 99 of Public Act 13-184 will occur following execution of the MOU, transfer of all appropriate permits to the state, conveyance of all the property owned by CRRA which is associated with such landfills to the state, and the transfer of all liability and obligations resulting

²¹ 40 CFR 258.61; RCSA 22a-209-4(i).

²² Section 236 of H.B. No. 6706 states that, effective upon passage: "The Department of Energy and Environmental Protection and the Connecticut Resources Recovery Authority shall enter into a memorandum of understanding requiring the department to assume all legally required obligations resulting from the closure of the landfills located in Hartford, Ellington, Waterbury, Wallingford and Shelton."

²³ Section 99 of Public Act 13-184 states that, effective July 1, 2013: "Notwithstanding any provision of the general statutes, the sum of up to \$35,000,000 shall be transferred from the resources of the Connecticut Resource Recovery Authority (CRRA) and credited to the resources of the General Fund for the fiscal year ending June 30, 2014."

from the closure of the landfills to the state. CRRA expects this to occur on or before June 30, 2014.

Until the MOU is executed, CRRA will continue to take all reasonable and appropriate steps necessary to continue to monitor and maintain the five designated landfills in accordance with governing law