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Joe Martens
Commissioner

August 19, 2011

The Honorable Jaclyn A. Brilling
Secretary
New York State Public Service Commission
Three Empire State Plaza
Albany, New York 12223-1350
secretary@dps.state.ny.us

Filed: Via Email Only

Re: Matter of the Application of Covanta Energy Corporation for Inclusion of Energy from Waste Facilities as an Eligible Technology in the Main Tier of the Renewable Portfolio Standard Program. **Case No. 03-E-0188.**

Dear Secretary Brilling,

Enclosed please find the New York State Department of Environmental Conservation's Comment on the Petition of Covanta Energy Corporation in the captioned proceeding. Service of this Comment is also being made upon parties pursuant to the active party list in this proceeding. Please note that the party list should be amended as to the Department of Environmental Conservation's representatives. James Ferreira can be removed from the party list and substituted with the following:

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Sincerely yours,

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Enc.
cc.: Active Party List: Case 03-E-0188 w/enc
EDMS # 409141

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of the Application of:	)	
	)	
COVANTA ENERGY CORPORATION	)	
	)	Case 03-E-0188
For Modification of the List of Eligible Resources	)	
Included in the Main Tier of New York's Renewable	)	
Portfolio Standard Program to include Energy from	)	
Waste Technology	)	

COMMENTS OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION REGARDING THE VERIFIED PETITION OF COVANTA ENERGY CORPORATION

August 19, 2011

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STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of the Application of:	)	
	)	
COVANTA ENERGY CORPORATION	)	
	)	Case 03-E-0188
For Modification of the List of Eligible Resources Included in the Main Tier of New York's Renewable Portfolio Standard Program to include Energy from Waste Technology	)	

COMMENTS OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION REGARDING THE VERIFIED PETITION OF COVANTA ENERGY CORPORATION

INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC) hereby submits comments regarding the February 11, 2011 Petition filed by Covanta Energy Corporation (Covanta), which seeks a declaratory ruling from the Public Service Commission (PSC or Commission) determining that waste-to-energy facilities (WTEs[1]) should be eligible for credits under the Renewable Portfolio Standard (RPS). Prior to this time, and ever since the Commission issued its Order creating the RPS on September 24, 2004, WTEs have not been included in the RPS's Main Tier eligible electric generation sources. The Commission made a second determination that WTEs do not satisfy the criteria to be included in the Main Tier of eligible electric generation sources in its Order dated April 2, 2010.

[1] Waste-to-energy (WTE) and energy from waste (EfW) are industry terms associated with facilities that combust municipal solid waste to produce electricity. NYSDEC uses the term municipal waste combustor to describe these facilities but for the purposes of these comments will use the WTE designation that has been used by the Commission in the past.

NYSDEC regulates individual WTEs by virtue of its regulatory programs administering air emissions controls (Environmental Conservation Law [ECL] Article 19, Air Pollution Control, and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York [6 NYCRR] Parts 200 *et seq.*) and solid waste management facility controls (ECL Article 27 and 6 NYCRR Parts 360 *et seq.*). NYSDEC submits these comments in order to provide the Commission with information as to the status of air emissions and municipal solid waste management in the WTE field so that the Commission may review the pertinent data and reports maintained by the State's environmental regulatory authority.

NYSDEC does not take a position directly on the merits of Covanta's petition for declaratory ruling. Instead, NYSDEC is providing: a current analysis of air emissions produced by Covanta's WTE facilities; a current analysis of WTE facilities in relation to New York State's municipal solid waste management hierarchy; and a recommended approach to administering the RPS in an environmentally responsible manner in the event that the Commission determines that WTEs should be eligible for Main Tier credits.

In the event that the Commission determines that oral argument is appropriate in this proceeding, NYSDEC would welcome the opportunity to present its position and recommendations in that forum.

AIR EMISSIONS

1. In 2004, the PSC found that WTE facilities employing mass burn technology did not meet the criteria to be an eligible resource in the NYS RPS program. The basis for its determination was primarily its concern over the high levels of mercury emissions from WTE facilities, noting that "in 2000, the average mercury emission rate from New York's WTE facilities was six times higher than the average emission rate from coal plants." PSC 2004 Order Regarding Retail Renewable Portfolio Standard at 39. The PSC's 2010 decision reaffirmed its 2004 decision.

2. Covanta makes several representations regarding the decline in air emissions from WTEs in support of its Petition to add WTE to the RPS. In response to Covanta's Petition, NYSDEC performed a detailed set of calculations to address two primary items raised in the Commission's 2004 and 2010 Orders, and Covanta's Petition. These include: 1) the trend in pollutant emissions for WTEs over the last 15 years, and 2) an emission comparison of WTEs to coal fired electricity generating facilities. The latter analysis relied on information from a single, but representative recent year (2009). The NYSDEC has not performed any explicit comparison of the WTE emissions to other sources of emissions for other energy sources such as gas burning facilities because the latter sources have lower emissions than either WTE or coal facilities.

3. NYSDEC has assessed the more recent data from the WTE and coal facilities and determined that there has been an overall reduction in emissions of most pollutants from the WTEs in terms of total annual emissions from the mid-90s to the present, averaged across the five Covanta-owned facilities in New York. Despite this incremental improvement, WTE facilities continue to

emit most air pollutants at emission rates that are greater than coal-fired power plants on a per megawatt-hour (MWh) basis. The details of NYSDEC's review are presented below.

Comparison of Pollutant Trends from Covanta's WTEs

4. Covanta's Petition used data from EPA on average total emissions of eight "key" pollutants from WTEs across the US for two individual years, 1990 versus 2005, to present the levels of reduction in these pollutants (see Covanta Petition, Table 1, Emissions Performance of Energy from Waste Facilities, 1990-2005, page 27).[2] In support of its Petition, Covanta states there is approximately a 90 percent or greater reduction for seven of these pollutants and a 25 percent reduction for nitrogen oxide (NOx). NYSDEC performed an independent analysis using data for the five Covanta facilities in New York for the period from 1996 to 2010.

5. Of the total of ten WTEs located in New York, five are owned by Covanta. These facilities dominate the overall total emissions from the WTEs such that the NYSDEC results are representative of the source category in general. NYSDEC plotted the time trends for seven of the pollutants noted by Covanta, plus carbon monoxide (CO), for each of Covanta's five facilities and for the average of the emissions across all five of the facilities[3]. This was done for the years 1996 thru 2010. The results are presented herein for the average emissions across the five facilities since this is a more statistically sound representation of trends for WTEs emissions in general.

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[2] The graph in Table 1 of Covanta's Petition is poorly identified and perhaps misleading in that it actually compares only two years, the year 1990 to the year 2005. The text in paragraph 36 implies that the emissions reduction is for a span of 15 years, from 1990 – 2005.

[3] The stack test data reported to NYSDEC by the WTEs was reviewed and a small set of data "outliers" were removed from this assessment.

6. The time trends of average emissions across the five Covanta facilities are presented in Appendix A, Figure 1 for the four criteria pollutants, and in Appendix A, Figure 2 for the four non-criteria "hazardous air pollutants" (HAPs) pollutants. Appendix A is attached to these comments. It is important not to make any general conclusions from these graphs based on individual source variability or discrete time steps. To accurately understand the time trends, the best fit lines as depicted in these graphs should be used.

7. The general conclusion from these graphs is that, as with many other energy sources, there has been an overall reduction in essentially all pollutants in terms of annual emissions from the mid-90s to the present, averaged across these five Covanta facilities in New York. Similarly, a reduction – albeit a smaller reduction -- can be seen in emissions in many pollutants from the years immediately preceding the PSC's determination in 2004 that WTE facilities are not eligible for the RPS, which determination was based in part on the high level of air emissions. The large reduction in mercury emissions from 1996 to the present is attributed by Covanta to the fact that New York requirements for mercury are more restrictive than the federal limits. Reductions in other pollutants, however, are below the mid-90 percentiles noted by Covanta (see Petition at ¶35, Table 1). NYSDEC data demonstrates these reductions are more in the range of 30 to 60 percent. Regarding dioxin emissions, NYSDEC data does not show the large reductions in dioxin emissions that the EPA's data shows from 1990 to 2005 as NYSDEC does not have sufficient data back to 1990 to confirm or refute similar trends for Covanta's New York facilities.

Comparison of Emissions from WTE to Coal Fired Facilities

8. NYSDEC compared the average emissions from the ten WTE facilities in New York to the eight coal burning facilities in New York. In order to be representative of more recent conditions this analysis was limited to 2009 data. The analysis included seven of the eight pollutants considered in Covanta's trends analysis, but excluded dioxins, as NYSDEC does not have any dioxin emissions data for coal burning facilities. The analysis was conducted in a two-step approach. The first step involved looking at the total annual emissions of those seven pollutants. The second step scales these annual emissions to the same level of "output production" (in this case electricity) by using the MWh production data.

9. The detailed calculated emissions for the seven pollutants from each WTE and each coal facility are presented in Appendix A, Figures 4, 5 and 6. Figure 4 provides the total annual emissions for each facility and Figure 5 provides the electricity output in terms of MWh. Figure 6 uses the data from Figures 4 and 5 to calculate each plant's emissions scaled by the corresponding MWh capacity output.[4] This approach was also used in Covanta's petition and by the Attorney General's Office in the 2003 RPS proceedings and serves as a means to compare the resultant emissions based on the ability of the different sources to deliver a product.

10. Figure 3 in Appendix A expresses the emissions from these sources in terms of ratios between WTEs and coal facilities. It shows that the WTEs produce more emissions than the coal facilities on a MWh basis, except for SO_2. Looking specifically at mercury, the WTEs produce

[4] It should be noted that some entries are in "scientific notation"; for example the average emission per MWh for Mercury from the WTEs is 8.1E-5 which is equivalent to 0.000081.

up to 14 times more mercury than the coal plants when these two sources produce the same amount of electricity.[5]

Covanta's Assessment of GHG emissions from WTEs

11. Covanta's claim that WTEs provide greenhouse gas (GHG) emission benefits cannot be substantiated because of various scientific uncertainties. For instance, Covanta's claim that WTEs emit GHGs at rates less than fossil-fired facilities relies, in part, on the premise that all GHG emissions from the combustion of all biogenic materials should be discounted. The treatment of carbon dioxide emissions from biogenic sources is the subject of ongoing analysis and debate as well as a continually developing and complex state of science. This issue is so unsettled that EPA has deferred for a period of three years any calculation and inclusion of biogenic CO_2 emissions from Clean Air Act PSD and Title V applicability in order "to conduct a detailed examination of the science associated with biogenic CO_2 emissions from stationary sources [including WTEs], . . . and resolve technical issues in order to account for biogenic CO_2 emissions in ways that are scientifically sound and also manageable in practice." 76 Fed. Reg. 43490, 43496 (July 20, 2011). If emissions from biogenic sources are included, carbon dioxide emissions from WTE facilities are higher than any fossil-fired sources. *See Beyond Waste, A Sustainable Materials Management Strategy for New York State (hereinafter Beyond Waste), Petition Exhibit 5, at 52-53* (the average emission rate from [WTEs] in the US are 2,988 lbs/MWh of CO_2, compared with national averages of 1,672 lb/MWh for oil, 2,249 for coal, and 1,135 for natural gas). Even if the biogenic carbon dioxide emissions are deducted, the resulting

[5] Note: this value is different from the value in the Attorney General Office's previous analysis since, in the latter, only data from the Huntley coal facility was used.

average emissions from WTE facilities nationwide (1,045 lbs/MWh) are higher than emissions from modern state-of-the–art combined cycle natural gas-fired plants.[6]

12. Covanta's contention that WTEs are superior to landfills from a GHG perspective is not supported by the record. Covanta is correct that methane emissions can be higher from landfills, particularly if methane is not properly captured from the landfill. Accordingly, *Beyond Waste* refers to a study that notes that lifetime GHG emissions from landfills can be much higher than from WTEs on a MWh basis (in part because landfills produce much less electricity than WTEs). *Id.* However, this comparison does not account for the GHG benefit of sequestering carbon in landfills; in addition to plastics, the carbon in wood, paper and other biogenic materials can remain sequestered.[7] In addition, methane is not the only relevant GHG for comparison; WTEs emit high levels of carbon dioxide as well.

Covanta's Assessment Of WTE Emissions Compared To Landfill and Biomass Emissions

13. Additionally, Covanta's comparisons of WTE emissions with landfill and biomass emissions on a MWh basis present other issues with insufficient data or information to support.

A. Covanta claims that mercury emissions from WTEs (EfW in the petition) on a per MWh basis are comparable to landfill and biomass emissions. (*See* Covanta Petition, page 28, Table 5.)

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[6] The national average of 1,135 lbs/MWh referenced in *Beyond Waste* includes various types of natural gas-fired plants, not limited to the more efficient combined-cycle plants that predominate in New York.

[7] For example, the USDA Forest Service used published estimates of methane yields to estimate the amount of carbon released into the atmosphere from landfilled forest products. Its calculations suggested that maximally only 30% of the carbon from paper and 0-3% of the carbon from wood are ever emitted as landfill gas. The remaining carbon remains in the landfill indefinitely and serves as a significant carbon sink. Micales, J.A. and Skog, K.E. USDA Forest Service. The decomposition of forest products in landfills. International Biodeterioration & Biodegradation, Vol. 39, No. 2-3(1997), pp. 145-158.

NYSDEC finds that there is very little data from the landfill gas and biomass sector to make definitive claims on this assessment. With this caveat, NYSDEC notes that the data presented by Covanta shows that emissions from WTEs are slightly higher than both landfill and biomass emissions, when the average rates are compared.

B. Covanta claims that nitrogen oxide (NOx) and sulfur oxide (SOx) emissions are lower from the WTEs in comparison to NOx and SOx emissions from landfills. (Covanta Petition pages 29-30.)

NYSDEC finds that this conclusion is supportable if the emissions from combustion of landfill gas are considered.

EXAMINING WTEs IN THE WASTE MANAGEMENT HIERARCHY

14. NYSDEC recently published a new State Solid Waste Management Plan, *Beyond Waste (Petition, Exhibit 5),* wherein NYSDEC discusses the pros and cons of solid waste management alternatives. Current WTE treatment of residual waste that cannot be prevented, reused, recycled, or recovered has several advantages over the disposal in landfills of residual wastes. As mentioned above, WTEs prevent methane production by the treatment of waste that would otherwise be disposed in landfills; recover and recycle metals that would have been disposed in landfills; and generate electricity more efficiently than landfill gas-to-energy (LGTE) facilities. Moreover, WTEs offset the use of fossil fuels to generate electricity, thereby contributing to the

diversity of New York's electrical supply and decreasing the state's dependence on fossil fuels. *See Beyond Waste, Petition, Exhibit* 5, at 52.

15. One of the issues of concern in the Commission's 2004 Order was the potential detrimental impacts on recycling programs. NYSDEC stated in *Beyond Waste* that appropriately sized and permitted municipal waste combustion facilities can co-exist with strong recycling programs. While the national average demonstrates that municipalities with WTEs have a slightly higher recycling rate (3 percent) than the national overall average, Covanta's Petition, overstates the compatibility of municipal waste combustion and recycling. As noted in *Beyond Waste*:

> Success in recycling in New York State has a stronger correlation to the level of investment in recycling outreach, education and infrastructure in the facility's service area than the type of facility, the facility's financing, facility permit conditions, and flow control or other legal support structures. In particular, public outreach and education to gain public support for and participation in recycling programs is critical to good performance." *Beyond Waste, Petition Exhibit 5, at 190.*

16. The Covanta Petition points to the Onondaga Resource Recovery Facility as proof that WTEs can coexist with a strong recycling program. While it is true that there are examples of areas, such as Onondaga County and Westchester County, where WTEs do not appear to detract from recycling, these areas are the exception, not the rule, in New York State. It is not necessarily the WTE facility itself that causes weak recycling rates but, as discussed above and in *Beyond Waste*, a successful recycling program requires a strong local program, together with adequate funding, outreach, public education, and enforcement.

17. While Covanta's Petition also points to recycling rates in the Town of Islip (40%), Town of Hempstead (40%), and Town of Babylon (32%) (*See* Covanta Petition ¶22) it must be noted that

these are not rates calculated by NYSDEC or in the same manner as NYSDEC calculated Onondaga County's recycling rate.[8] With the current data available to NYSDEC, the recycling rates for these municipalities would be lower. When calculated in the same manner as Onondaga County the recycling rates are: Town of Islip (28.6%), Town of Hempstead (21%), and Town of Babylon (20.4%). It must also be kept in mind that yard trimmings constitute a large portion of those Towns' recycling rates. The percent of yard waste of the total recycling rate noted herein is: Town of Islip (61.9%), Town of Hempstead (43.8%) and Town of Babylon (51%), whereas yard trimmings constitute 18% of Onondaga County's 51% recycling rate. It also may be helpful to know that the paper & container per capita totals for these three municipalities were lower than the statewide per capita average for these materials - 74.6% of the statewide average for Babylon, 80.7% for Hempstead and 72.4% for Islip - compared to Onondaga County's per capita rate for these materials exceeds the statewide average by 335%.

18. Another reason cited in the Commission's April 2010 Order for denying RPS eligibility for WTEs was that waste management, not energy production, is the focus of WTE technology. As noted in *Beyond Waste,* more energy is conserved by reducing waste and reusing and recycling materials than is generated by combusting them. A WTE, however, will generate energy from the waste that remains for disposal. WTEs can offer electricity and steam for consumer use, in addition to supplying electricity for its own operational needs.

19. WTEs serve the dual purpose of generating electricity and reducing waste volume consistent with the New York State Solid Waste Management Policy (Environmental Conservation Law §

[8] NYSDEC examines only the recovery of MSW generated by households, commercial or institutional sources, not C&D debris, industrial waste, or biosolids. In some areas recycling rates have been inflated by including C&D debris recovery in the calculation.

27-0106(1)(c)), to recover, in an environmentally acceptable manner, energy from solid waste that cannot be economically and technically reused or recycled. NYSDEC found that:

> The energy value of MSW is 4,500–6,000 BTU/lb, while coal has an energy value of 8,000–13,000 BTU/lb and natural gas has a value of approximately 24,000 BTU/lb.
>
> A more appropriate comparison from a solid waste perspective is between [WTE] and other energy generating technologies for residual waste, such as landfill gas to energy. Landfill gas is generated during a longer time frame after a significant amount of waste is in place, while [WTE] generates energy immediately using incoming waste. A landfill gas to energy facility will not extract as much energy value from the residual waste stream because certain materials with high BTU values for [WTE] (*e.g.* plastics) will not break down into methane in a landfill, and, therefore, their embedded energy will be lost. And landfill gas collection systems do not completely capture all methane gas produced, contributing to the inefficiencies in that system. Taking these factors into account, a landfill gas-to-energy project can provide about 105 kWh per ton of MSW as compared to 585 kWh per ton from [WTE] and 2,250 kWh per ton of energy saved through recycling. *Beyond Waste, Petition Exhibit 5, at 188.*

These data underscore the point made in *Beyond Waste* that WTEs have a place in New York State's solid waste hierarchy higher than extracting and combusting gas for energy from landfills, or landfilling itself, but below reduction, reuse, and recycling.

20. In its 2004 Order, the Commission made a point of discussing the lack of public support and continuing controversy surrounding the development of WTEs in New York. Though there was and remains a public concern related to the permitting of new WTEs, state and federal regulatory programs as well as improvements in technologies have led to reduced environmental impacts and a growing and supportive base of environmental monitoring data collected over the past few decades. As articulated in *Beyond Waste*, and the state solid waste management policy, a properly designed and operated WTE is preferable to landfilling waste that remains after waste

prevention, reuse, recycling and composting programs have been maximized. *Beyond Waste, Petition Exhibit 5, at 188.*

21. NYSDEC is aware that the receipt of public funding may disqualify a RPS participant from eligibility. The Commission should be aware that many municipalities received moneys from the 1972 Bond Act for purposes of constructing WTEs. Attached as Appendix B is a list of municipalities that received funding; those with currently operating WTE facilities are highlighted in yellow with nearly $90 million of state funding previously provided to those. Many of these initially municipally owned facilities have since been transferred to private ownership. Also attached as Appendix C is a list of the facility owners as they appear on their current 6 NYCRR Part 360 Permits. Wheelabrator Hudson Falls will soon be transferred from the Warren and Washington County IDA to Wheelabrator. Covanta Niagara is the only currently operating facility that did not begin as a municipally owned facility and did not receive funding from NYSDEC.

SUMMARY AND RECOMMMENDATION

NYSDEC does not take issue with Covanta's statements to the effect that technological advancements and improvements in waste stream management have occurred since the Commission's original September 2004 Order, which noted that "[I]n 2000, the average mercury emission rate [per MWh generated] from New York's WTE facilities was six times higher than the average emissions [per MWh generated] from coal plants." But as explained above, it remains true "that [WTEs'] remaining emissions of mercury and NOx exceed those of the dirtiest coal-type fossil fuel generating stations." (September 2004 Order, page 39.) Today, if WTEs

produced as much electricity as coal facilities, the WTEs would be responsible for 14 times more mercury emissions.

Accordingly, the record of the Commission's September 2004 and April 2010 Orders should be updated to reflect current emissions data and the other information supplied by NYSDEC herein. This updated information will provide a contemporary perspective for comparing WTEs to New York State's various, diverse energy sources. This current information provides clarity regarding the position of WTEs in New York State's solid waste management hierarchy and the dual nature of WTEs in New York as both energy generation and waste management facilities.

Although NYSDEC does not take a position on whether WTEs should be deemed renewable sources of energy for purposes of the RPS program or be permitted to participate in the RPS program, sources of energy with significant air emissions should not divert resources from zero emission, clean renewable energy production such as wind or solar-powered plants from the RPS program. Therefore, in the event that the Commission determines that the Covanta Petition should be granted, or if the Commission otherwise opens the RPS proceeding to consider new parameters to RPS Main Tier eligibility, NYSDEC recommends that the Main Tier be bifurcated to introduce an entry point for WTE eligibility. This contemplates segregating zero emission energy sources, such as wind and solar powered plants, into a separate tier within the Main Tier that qualifies for separate funding before all other generation sources in a second tier are considered. A second tier within the Main Tier could devote separate funding to eligible zero emission generation sources prior to funding eligible expanded or new WTEs, LGTE facilities or other emitting facilities. Without creation of a two tier system, NYSDEC would oppose the

extension of WTE into the RPS program based on the position that the program should strongly favor and encourage zero emission energy sources.

Furthermore, in the event that the Commission determines that it will grant Covanta's Petition, or engages in other relief that reopens the RPS Main Tier process, NYSDEC recommends that the Commission incorporate into its review whether Main Tier credits should be reduced by removing the electricity generated from the combustion of the non-biogenic portion of the MSW feedstock. The Commission's September 2004 Order determined that, to the extent biomass was co-fired with other fuels, only the biomass portion would be eligible under the RPS. September 2004 Order, Appendix B, page 1. If this proceeding is re-opened, WTE eligibility should be further evaluated to determine whether credits should be reduced by an amount equivalent to the portion of biogenic materials that would otherwise be sequestered and act as a carbon sink if it were to be disposed of in a landfill. The emissions from these two components would not occur if the MSW was not combusted and therefore should not be included in the calculation of credits.[9]

In summary, NYSDEC observes that WTEs that otherwise meet environmental emissions and discharge thresholds, and are thus in regulatory compliance, have on this record been shown to

[9] As of 2007, the DOE Energy Information Agency (EIA) will include MSW in renewable energy only to the extent that the energy content of the MSW source stream is biogenic. Standard ASTM D6866 method testing is available to accurately measure biogenic CO2 emissions, partitioning CO2 emissions into biogenic and non-biogenic portions. Bahor, B., Weitz, K., & Szurgot, A. (June 2008). Updated analysis of greenhouse gas emissions and mitigation from municipal solid waste management options using a carbon balance. Paper presented at the 2008 Global Waste Management Symposium, Colorado, September 8-10. This article discusses "how the variability in total carbon and the biogenic/fossil split must be considered when conducting an analysis of GHG emissions and/or mitigation. ASTM D6866 is a demonstrated and proven technique for determining whether CO_2 is from biogenic or fossil-based waste components." ASTM D6866 has already been incorporated in the EPA's Mandatory Greenhouse Gas Reporting Rule (40 CFR Part 98) and Western Climate Initiative's Mandatory Reporting Requirements, among others.

be trending toward lower emissions over all since 1996. However, as with other eligible emitting facilities, WTEs still have considerable air emissions that exceed coal-powered plants on a per megawatt basis. Accordingly, RPS should not be expanded unless a two-tier or other system favoring zero emission sources is implemented. In addition, to the extent expanded or new WTEs emit fewer air emissions and toxics than other eligible emitting facilities, as well as existing WTEs, they should not be deemed eligible unless sponsors of proposals to expand or construct new WTEs are able to demonstrate that they will construct and operate using the most advanced and lowest emitting technology.

FURTHER RECOMMENDATION PURSUANT TO THE STATE ENVIRONMENTAL QUALITY REVIEW ACT (SEQR)

In addition, in the event that the Commission determines that it will grant Covanta's Petition, or engages in other relief that reopens the RPS Main tier process, NYSDEC recommends that the Commission prepare a supplement to its 2004 GEIS on the RPS and order/findings statement. SEQR regulations at § 617.9 (a) (7) (i) provide: "[t]he lead agency may require a supplemental EIS, limited to the specific significant adverse environmental impacts not addressed or inadequately addressed in the EIS that arise from: ('a') changes proposed for the project; or ('b') newly discovered information . . . ." The regulation then states: "The decision to require preparation of a supplemental EIS, in the case of newly discovered information, must be based upon the following criteria: ('a') the importance and relevance of the information; and ('b') the present state of the information in the EIS."

Covanta's request for a declaratory ruling that would allow WTEs to be included in the RPS main tier eligible electric generation sources would amount to a substantial change in the RPS. A supplemental GEIS is thus the administrative and regulatory mechanism to assess the environmental impacts of whether exclusion of WTE facilities from the RPS main tier is still warranted today in light of updated technological information concerning emission controls from such facilities; increasing awareness of the relative contributions of greenhouse gas emissions from all energy sectors, including those from landfills versus WTE facilities; and the relative reduction in the volume of wastes that would otherwise be directed to landfills for disposal or, possibly, combustion in landfill-gas-to energy facilities; along with other appropriate alternatives.

DATED: August 19, 2011
Albany, New York

New York State Department of
Environmental Conservation.
By:

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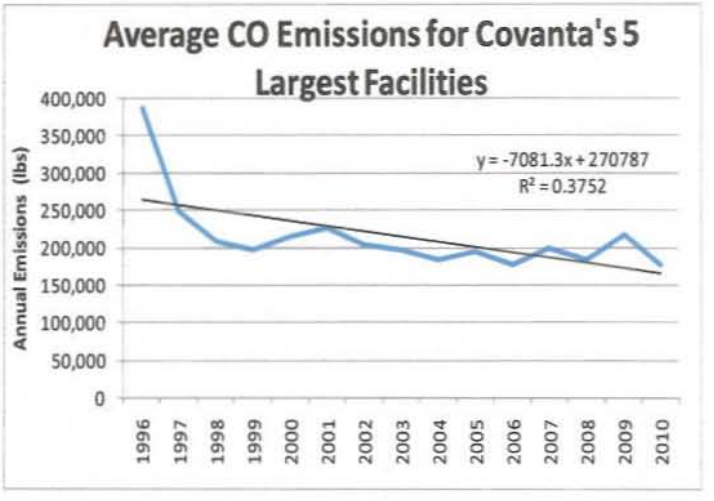
APPENDIX A

Figure 1. Trends for Criteria Pollutants for Average Emissions for Five Covanta Facilities in New York.



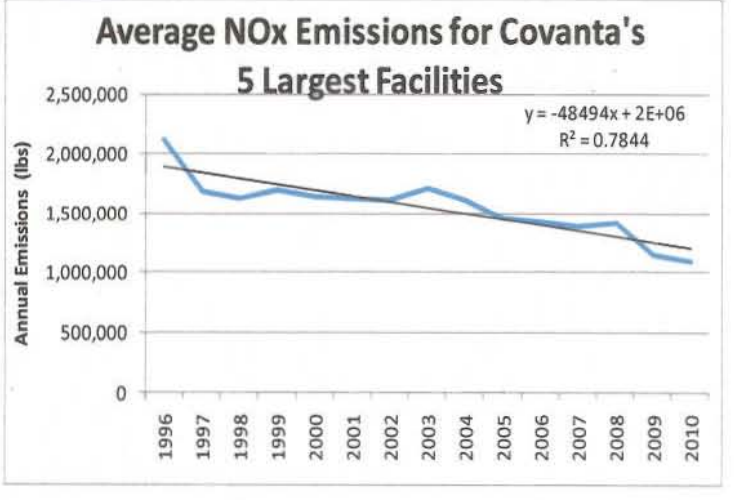
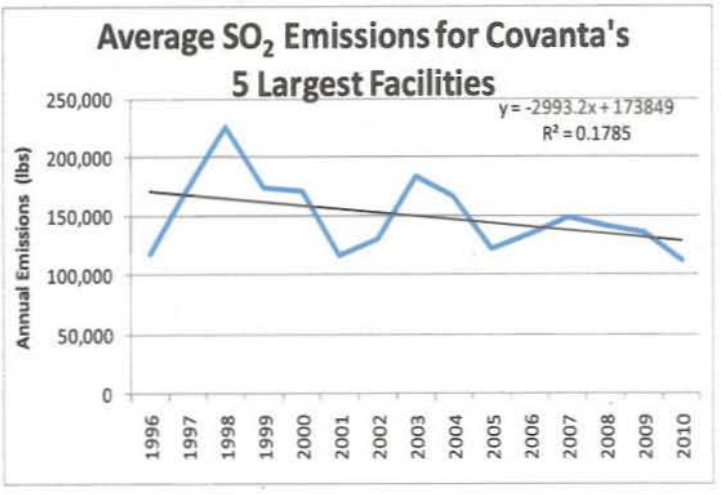


Figure 1 continued



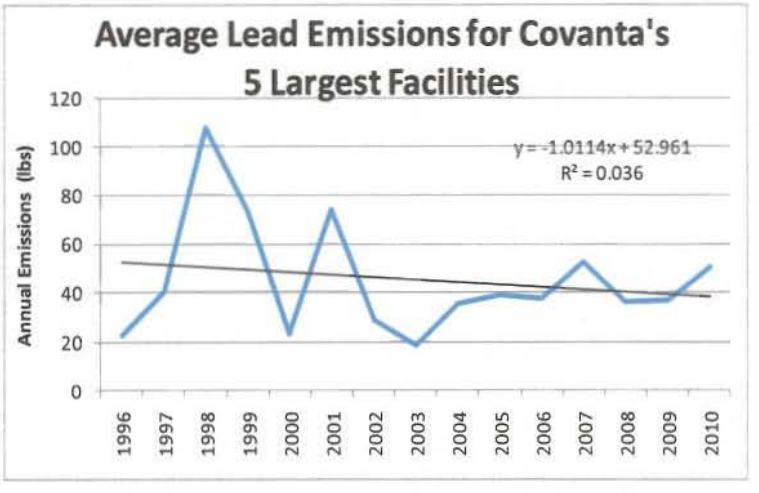
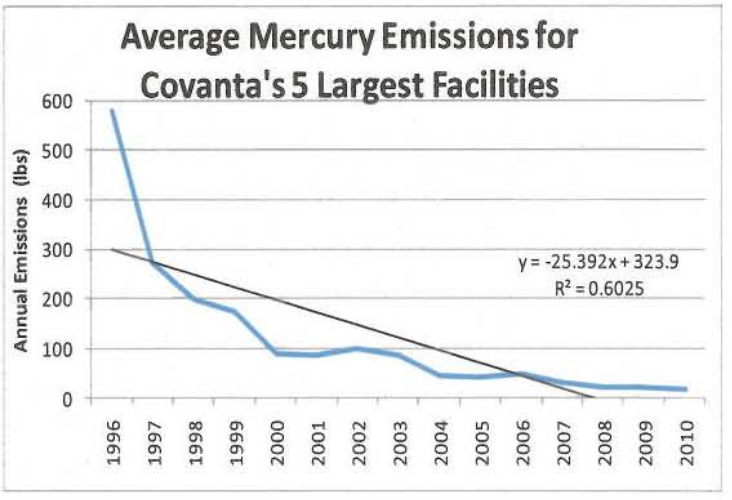


Figure 2. **Trends for Non-criteria (HAPs) Pollutant Average Emissions for Five Covanta Facilities in New York.**



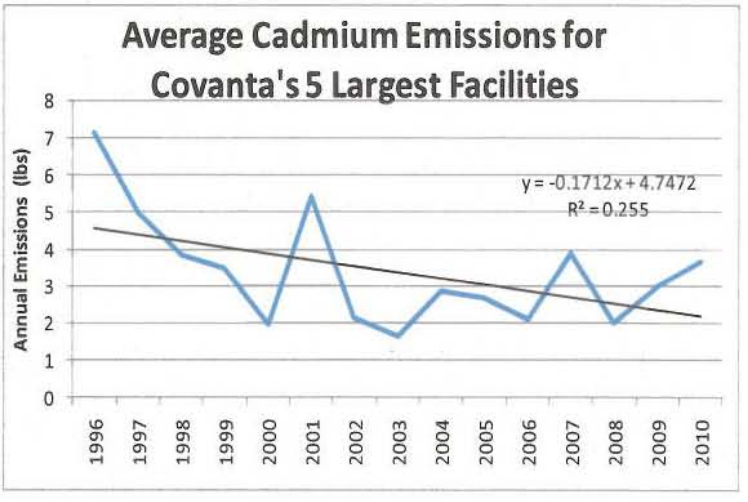
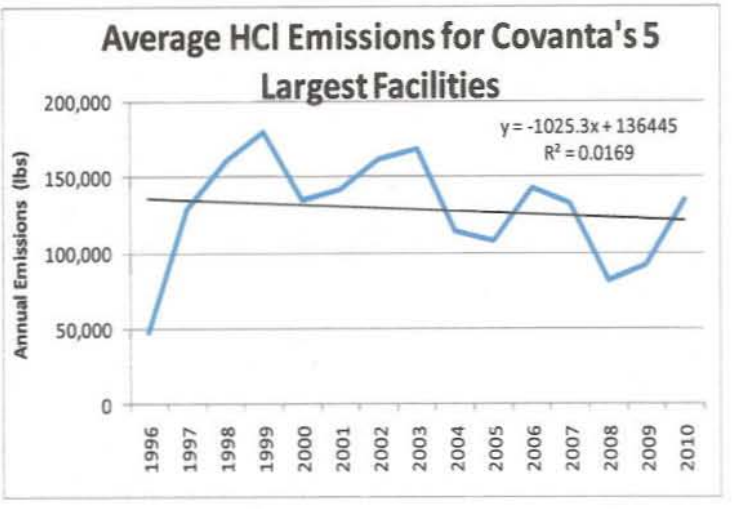


Figure 2 continued



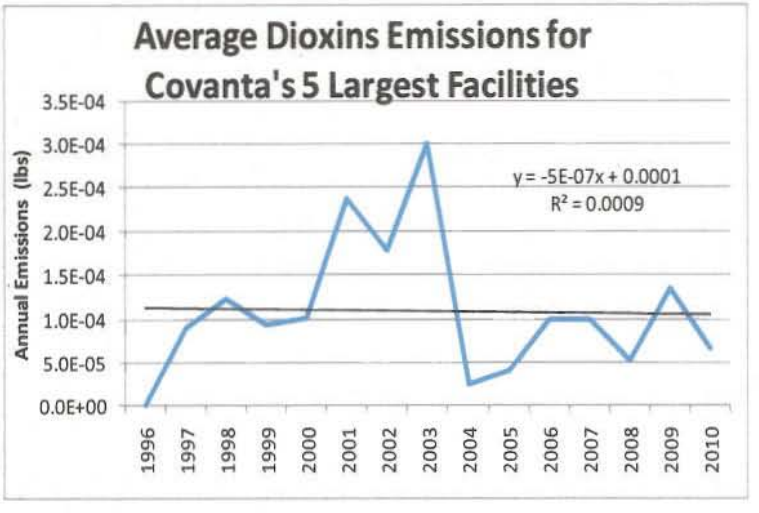


Figure 3.

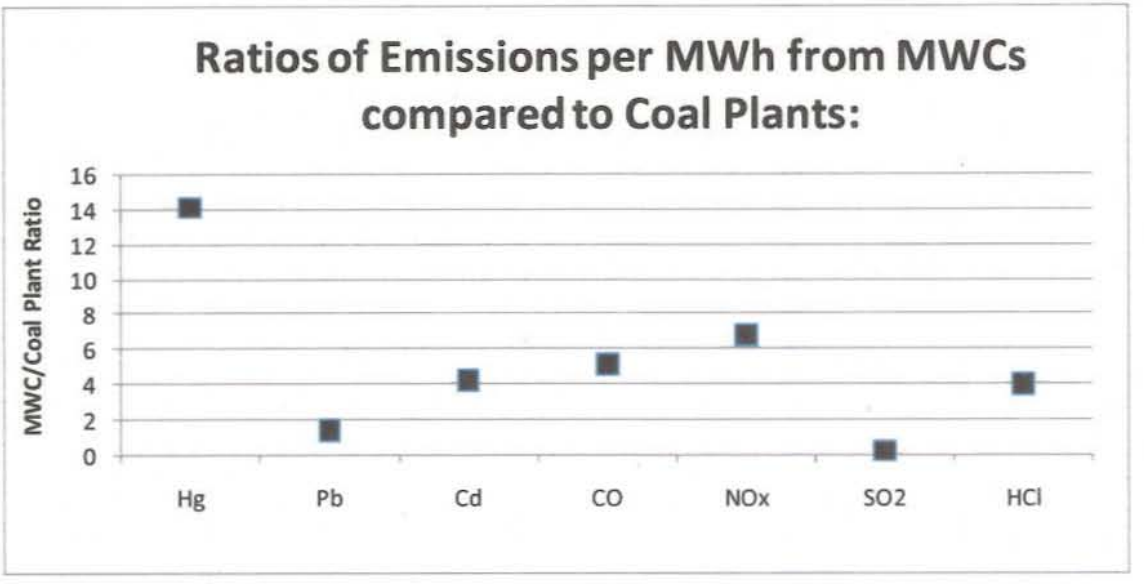

Ratios of Emissions per MWh from MWCs compared to Coal Plants:
MWC/Coal Plant Ratio
16
14
12
10
8
6
4
2
0
Hg
Pb
Cd
CO
NOx
SO2
HCl

Figure 4

Annual Emissions

Muncipal Waste Combustors - 2009 Data

DEC ID	Facility	Hg (lbs)	Pb (lbs)	Cd (lbs)	CO (tons)	NOx (tons)	SO2 (tons)	HCl (tons)
1282001727	Hempstead Resource Recovery Facility	28.7	16.2	1.4	256.06	625.33	35.17	43.81
1472000777	Babylon Resource Recovery Facility	25.7	15.8	0.92	34.64	181.79	46.22	30.13
1472600790	Huntington Resource Recovery Facility	4.5	21.3	1.5	57.81	359.07	5.25	4.27
1472800185	Islip McArthur Resource Recovery Facility	1.84	0.55	0.14	64.36	198.05	24.53	12.39
3134600019	Dutchess Co. Resource Recovery Facility	7.24	2.49	0.82	85.39	166.78	28.69	26.82
3551200031	Wheelabrator Westchester LP	18	179	9	29.02	674.78	56.61	NA
5534400001	Wheelabrator Hudson Falls	5.8	40.7	3.9	9.6	117.28	14.65	10.1
7314200028	Onondaga Co. Resource Recovery Facility	2.1	26.5	1.7	22.09	539.31	28.86	10.14
7355800013	Oswego Co. Energy Recovery Facility	0.0065	0.0035	0.0055	0.58	161.15	23.06	12.66
9291100113	Covanta Niagara LP	34	80	0	95.55	746.72	136.7	89.95
Average Emissions		**12.79**	**38.25**	**1.94**	**65.51**	**377.03**	**39.97**	**24.03**
Total Emissions		127.88	382.55	19.38	655.10	3770.26	399.74	240.27

Coal Fired Electric Generating Stations - 2009 Data

DEC ID	Facility	Hg (lbs)	Pb (lbs)	Cd (lbs)	CO (tons)	NOx (tons)	SO_2 (tons)	HCl (tons)
3334600011	Danskammer Generating Station	26	0.013	16	77.69	915.49	3770.73	186.48
7034600045	AES Westover	0.14	112.80	0.38	53.73	714.99	6232.56	128.95
7503200019	AES Cayuga	2.21	784.74	2.62	153.86	2110	2196.4	369.25
8573600004	AES Greenidge LLC	0.015	33.009	0.11	47.76	381.16	427.72	6.41
9060300021	Dunkirk Steam Generating Station	39	101	15	398.85	2270.4	4317.8	26.9
9146400130	Huntley Steam Generating Station	26	30	6	297.03	1541.1	6018	18.35
9291100152	Niagara Generating Facility	0.0094	0.018	0.04	1.53	3.45	0.01	NA
9293800003	AES Somerset LLC	0.15	301.28	1.0058	312	3748.2	5070.1	791.86
Average Emissions		**11.69**	**170.36**	**5.14**	**167.81**	**1460.60**	**3504.17**	**191.03**
Total Emissions		93.52	1362.86	41.15	1342.45	11684.79	28033.32	1528.20

Ratios of Average Annual Emissions from MWCs compared to Coal Plants:	**1.09**	**0.22**	**0.38**	**0.39**	**0.26**	**0.01**	**0.13**

Figure 5

Capacity

Muncipal Waste Combustors - 2008 Data

DEC ID	Facility	MWh (Yr)
1282001727	Hempstead Resource Recovery Facility	566,701
1472000777	Babylon Resource Recovery Facility	101,976
1472600790	Huntington Resource Recovery Facility	189,082
1472800185	Islip McArthur Resource Recovery Facility	53,215
3134600019	Dutchess Co. Resource Recovery Facility	44,201
3551200031	Wheelabrator Westchester LP	378,340
5534400001	Wheelabrator Hudson Falls	82,584
7314200028	Onondaga Co. Resource Recovery Facility	219,491
7355800013	Oswego Co. Energy Recovery Facility	3,637
9291100113	Covanta Niagara LP	217,345
Average Capacity		185,657
Total Capacity		1,856,572

Coal Fired Electric Generating Stations - 2009 Data

DEC ID	Facility	MWh (Yr)	MW (Summer)	Summer/Yr	Yr/Summer
3334600011	Danskammer Generating Station	1,442,668	367.2	0.00025	3928.83
7034600045	AES Westover	267,983	121.1	0.00045	2212.91
7503200019	AES Cayuga	1,792,489	306.1	0.00017	5855.89
8573600004	AES Greenidge LLC	546,419	155.5		
9060300021	Dunkirk Steam Generating Station	2,774,156	534.8	0.00019	5187.28
9146400130	Huntley Steam Generating Station	2,144,634	375.2	0.00017	5715.98
9291100152	Niagara Generating Facility	157,185			
9293800003	AES Somerset LLC	3,557,862	682.8	0.00019	5210.69
Average Capacity		1,585,424		**Average:**	**3513.95**
Total Capacity		12,683,396			

Color Code: Calcuated from the average of the annual coal power plant output to Summer capacity (from the 2009 NYS Energy Plan) ratios for the other NYS coal fired power plants included above.

Figure 6

Emissions per MWh

Muncipal Waste Combustors - 2009 Data

DEC ID	Facility	Hg (lbs)	Pb (lbs)	Cd (lbs)	CO (tons)	NOx (tons)	SO2 (tons)	HCl (tons)
1282001727	Hempstead Resource Recovery Facility	5.06E-05	2.86E-05	2.47E-06	4.52E-04	1.10E-03	6.21E-05	7.73E-05
1472000777	Babylon Resource Recovery Facility	2.52E-04	1.55E-04	9.01E-06	3.40E-04	1.78E-03	4.53E-04	2.95E-04
1472600790	Huntington Resource Recovery Facility	2.38E-05	1.13E-04	7.93E-06	3.06E-04	1.90E-03	2.78E-05	2.26E-05
1472800185	Islip McArthur Resource Recovery Facility	3.45E-05	1.04E-05	2.69E-06	1.21E-03	3.72E-03	4.61E-04	2.33E-04
3134600019	Dutchess Co. Resource Recovery Facility	1.64E-04	5.63E-05	1.85E-05	1.93E-03	3.77E-03	6.49E-04	6.07E-04
3551200031	Wheelabrator Westchester LP	4.76E-05	4.73E-04	2.38E-05	7.67E-05	1.78E-03	1.50E-04	NA
5534400001	Wheelabrator Hudson Falls	7.02E-05	4.93E-04	4.72E-05	1.16E-04	1.42E-03	1.77E-04	1.22E-04
7314200028	Onondaga Co. Resource Recovery Facility	9.57E-06	1.21E-04	7.75E-06	1.01E-04	2.46E-03	1.31E-04	4.62E-05
7355800013	Oswego Co. Energy Recovery Facility	1.78E-06	9.62E-07	1.51E-06	1.59E-04	4.43E-02	6.34E-03	3.48E-03
9291100113	Covanta Niagara LP	1.56E-04	3.68E-04	0	4.40E-04	3.44E-03	6.29E-04	4.14E-04
Average Emissions		**8.10E-05**	**1.82E-04**	**1.21E-05**	**5.13E-04**	**6.57E-03**	**9.08E-04**	**5.30E-04**
Total Emissions		8.10E-04	1.82E-03	1.21E-04	5.13E-03	6.57E-02	9.08E-03	5.30E-03

Coal Fired Electric Generating Stations - 2009 Data

DEC ID	Facility	Hg (lbs)	Pb (lbs)	Cd (lbs)	CO (tons)	NOx (tons)	SO_2 (tons)	HCl (tons)
3334600011	Danskammer Generating Station	1.80E-05	9.01E-09	1.11E-05	5.39E-05	6.35E-04	2.61E-03	1.29E-04
7034600045	AES Westover	5.06E-07	4.21E-04	1.41E-06	2.00E-04	2.67E-03	2.33E-02	4.81E-04
7503200019	AES Cayuga	1.24E-06	4.38E-04	1.46E-06	8.58E-05	1.18E-03	1.23E-03	2.06E-04
8573600004	AES Greenidge LLC	2.82E-08	6.04E-05	2.02E-07	8.74E-05	6.98E-04	7.83E-04	1.17E-05
9060300021	Dunkirk Steam Generating Station	1.41E-05	3.64E-05	5.41E-06	1.44E-04	8.18E-04	1.56E-03	9.70E-06
9146400130	Huntley Steam Generating Station	1.21E-05	1.40E-05	2.80E-06	1.38E-04	7.19E-04	2.81E-03	8.56E-06
9291100152	Niagara Generating Facility	5.98E-08	1.15E-07	2.54E-07	9.73E-06	2.19E-05	6.36E-08	NA
9293800003	AES Somerset LLC	4.10E-08	8.47E-05	2.83E-07	8.77E-05	1.05E-03	1.43E-03	2.23E-04
Average Emissions		**5.76E-06**	**1.32E-04**	**2.86E-06**	**1.01E-04**	**9.74E-04**	**4.21E-03**	**1.34E-04**
Total Emissions		4.61E-05	1.05E-03	2.29E-05	8.07E-04	7.79E-03	3.37E-02	1.07E-03

Ratios of Emissions per MW from MWCs compared to Coal Plants:		**14.07**	**1.38**	**4.22**	**5.08**	**6.75**	**0.22**	**3.96**

APPENDIX B

Summary of 1972 Bond Act Funds Provided For High Technology Resource Recovery Projects				
Project/ Municipality	Original Targeted Funding Amount	Final Funding Amount	Amount Reappropriated to Recycling Projects	Amount Reappropriated to Solid Waste Projects
Hempstead (T) (Hempstead RRF)	$2,000,000	$2,000,000		
North Hempstead (T)	$4,000,000	$0	$1,520,941	$2,479,059
Oyster Bay (T)	$5,057,000	$34,879		$22,121 ($5,000,000 authorized for waterfront revitilization project)
Smithtown (T)	$2,699,000	$2,418,474	$280,526	
Islip (T) (MacArthur WtE Facility)	$7,500,000	$7,500,000		
Babylon (T) (Covanta Babylon)	$14,000,000	$14,000,000		
Huntington (T) (Huntington RRF)	$14,000,000	$14,000,000		
Brookhaven (T)	$8,250,000	$0	$6,250,000 - Town Use $2,000,000-Statewide Use	
New York (C)	$46,871,000	$92,340	$46,778,660	
Westchester County (Wheelabrator Westchester)	$34,865,000	$32,298,333	$2,566,667	
Dutchess County (Dutchess County RRF)	$13,449,000	$13,449,000		
Albany County	$6,642,000	$5,701,743	$940,257	
Washington County (Wheelabrator Hudson Falls)	$1,700,000	$1,700,000		

Summary of 1972 Bond Act Funds Provided For High Technology Resource Recovery Projects				
Project/ Municipality	Original Targeted Funding Amount	Final Funding Amount	Amount Reappropriated to Recycling Projects	Amount Reappropriated to Solid Waste Projects
Oneida County	$3,500,000	$3,308,256	$191,744	
St. Lawrence County	$6,083,000	$0	$750,000 - County Use $5,333,000-Statewide Use	
Onondaga County (Onondaga County RRF)	$295,000	$295,000		
Broome County	$8,779,000	$0	$286,559	$8,492,441
Oswego County (Oswego County Energy Recovery Facility)	$4,583,000	$4,583,000		
Chemung County	$556,000	$556,000		
Monroe County	$19,500,000	$17,848,125	$1,651,875	
Western Finger Lakes SWMA	$1,500,000	$0	$1,300,000 Authority Use $200,000 - Statewide Use	
Chautauqua County	$287,000	$249,573	$37,427	
Erie County	$7,000,000	$0	$7,000,000 - Use by any Erie County Municipality	
Cattaraugus County	$1,800,000	$1,800,000		
Allegany County	$500,000	$500,000		
SUB-TOTAL (currently operating WtE)	$92,392,000	$89,825,333	$2,566,667	
TOTAL	**$215,416,000**	**$122,334,723**	**$77,087,656**	**$10,993,621-Solid Waste $5,000,000 - Waterfront Revitalization**

APPENDIX C

Municipal Waste Combustors

Facility	Owner(s)
Hempstead RRF	Covanta Hempstead Company
MacArthur WtE Facility (Islip)	Islip Resource Recovery Agency
Covanta Babylon	Covanta Babylon, Inc.
Huntington Resource Recovery Facility	Town of Huntington/Covanta Huntington, LP
Dutchess County RRF	Dutchess County RRA
Onondaga County RRF	OCCRA/Covanta Onondaga, LP
Covanta Niagara	Covanta Niagara
Wheelabrator Westchester	Westchester County IDA
Wheelabrator Hudson Falls	Warren/Washington IDA
Oswego County Energy Recovery Facility	Oswego County