

1 including but not limited to standards for mercury established pursuant to Title 38,
2 chapter 4, section 585-B, subsection 5;

3 (4) That complies with all applicable licensing requirements for solid waste
4 facilities as established in accordance with Title 38, chapter 13, section 1310-N; and

5 (5) Whose residuals are transported to a landfill that is licensed to meet at least the
6 performance standards and siting criteria established pursuant to Title 38, chapter 13,
7 section 1304, subsection 1-B, including but not limited to standards prohibiting
8 contamination of ground water outside the solid waste boundary of landfills.

9 **Sec. 3. 35-A MRSA §3210**, as amended by PL ___, c. ___, Part ___, § ___, is further
10 amended to add:

11 **3-B. Portfolio requirement; waste energy.** Portfolio requirements for waste energy
12 resources are governed by this subsection.

13 A. Beginning July 1, 20[12], as a condition of licensing pursuant to section 3201, each
14 competitive electricity provider in this State must demonstrate in a manner satisfactory
15 to the commission that no less than [3.5] per cent of its portfolio of supply sources for
16 retail electricity sales in this State is accounted for by waste energy resources. Waste
17 energy resources used to satisfy the requirements of this paragraph may not be used to
18 satisfy the requirements of subsection 3.

19 B. Retail electricity sales pursuant to a supply contract or standard-offer service
20 arrangement executed by a competitive electricity provider that is in effect on the
21 effective date of this subsection is exempt from the requirements of this subsection
22 until the end date of the current term of the supply contract or standard-offer service
23 arrangement.

24 Rules adopted under this subsection are routine technical rules pursuant to Title 5, chapter
25 375, subchapter 2-A.

26 **Sec. 4. 35-A MRSA §3210**, as amended by PL ___, c. ___, Part ___, § ___, is further
27 amended to add:

28 **9-A. Alternative compliance payment; portfolio requirements for waste energy**
29 **resources.** The commission shall allow competitive electricity providers to satisfy the
30 portfolio requirement for waste energy resources under subsection 3-B through an
31 alternative compliance payment mechanism in accordance with this subsection.

32 A. The commission shall set the alternative compliance payment rate by rule and shall
33 publish the alternative compliance payment rate by January 31st of each year. In
34 setting the rate, the commission shall take into account prevailing market prices,
35 standard-offer service prices for electricity, and reliance on alternative compliance
36 payments to meet the requirements of subsection 3-B.

37 B. The commission shall collect alternative compliance payments made by
38 competitive electricity providers and shall deposit all funds collected under this
39 paragraph in the Renewable Resource Fund established under section 10121,
40 subsection 2 to be used to fund research, development and demonstration projects
41 relating to renewable energy technologies.

1 The commission shall adopt rules to implement this subsection. Rules adopted under this
2 subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

3

SUMMARY

4 Current law established as a policy of the State to encourage the generation of
5 electricity from renewable and efficient resources by requiring that each
6 competitive electricity provider in this State demonstrate that no less than 30% of its
7 portfolio of supply sources for retail electricity sales in this State is accounted for
8 by eligible resources. This bill implements that policy by stimulating demand for
9 electricity from generators fueled by municipal solid waste in conjunction with
10 recycling.

11 Specifically, this bill amends the law in the following ways.

12 1. The bill amends the definition of “renewable capacity resource” to add
13 generators fueled by municipal solid waste in conjunction with recycling, including
14 pyrolytic waste systems.

15 2. The bill defines “waste energy resource” as a source of electrical generation
16 that is fueled by municipal solid waste in conjunction with recycling and whose
17 total power capacity does not exceed 35 megawatts. In addition, a facility would
18 have to meet Maine’s strict air emissions standards for resource recovery facilities
19 and licensing standards for solid waste facilities, and ensure that residuals from the
20 facility are disposed of at a landfill meeting Maine’s licensing standards.

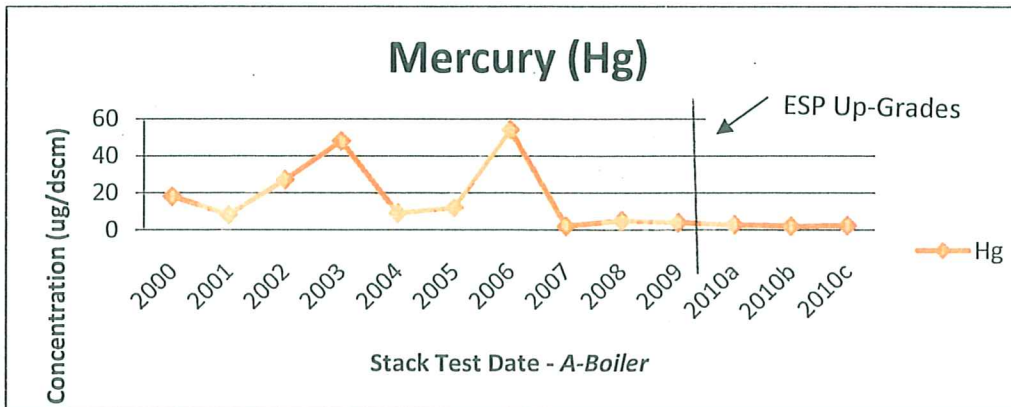
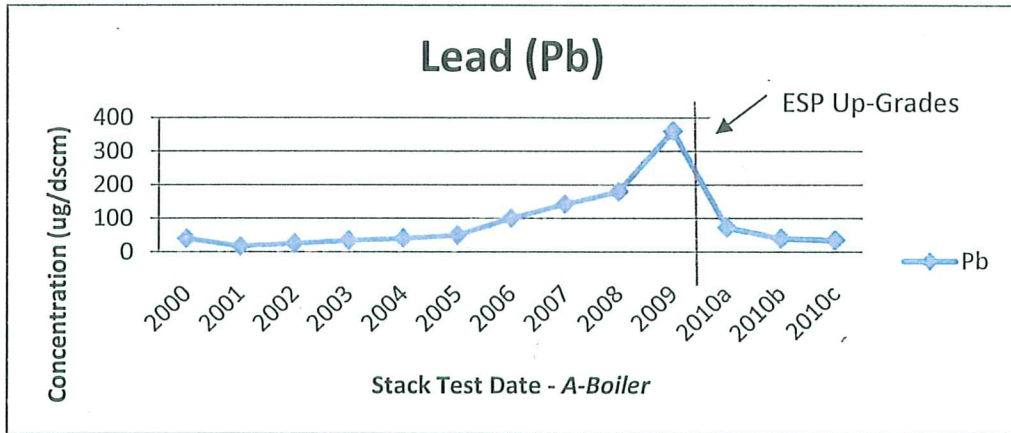
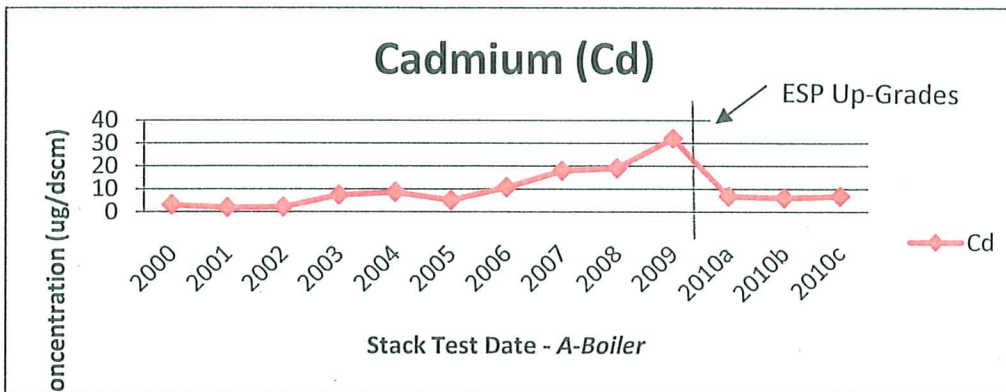
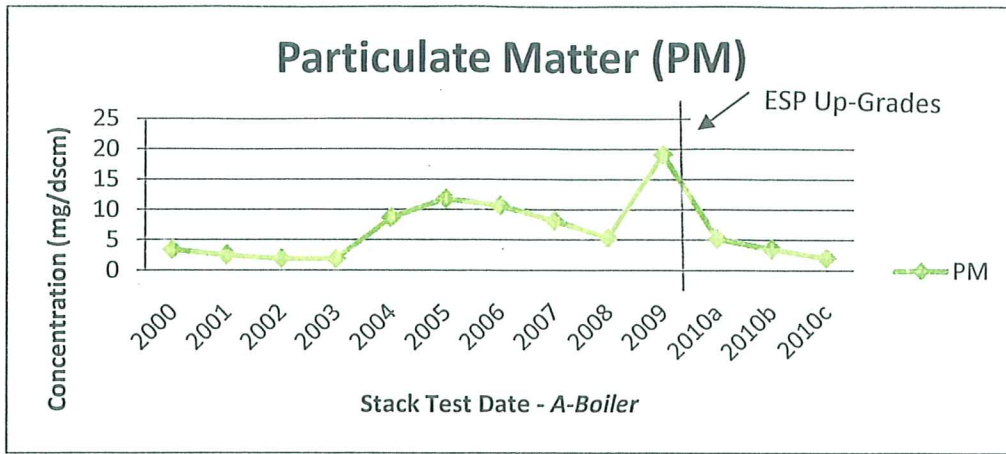
21 3. The bill establishes 3.5% portfolio requirement for electricity from waste energy
22 resources.

23 4. The bill allows competitive electricity providers to meet the portfolio
24 requirements for waste energy resources through the use of renewable energy
25 credits or an alternative compliance payment to be set by the Public Utilities
26 Commission.

27

Next four pages – Handout #2

A-Boiler – Trend Plot of Historical Stack Test Data



Pollutant	2010a										2010b		2010c		
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	In-house		In-house		Emission
											2010	2010	2010	2010	Limit
PVI - Particulate Matter (mg/dscm)	3.37	2.5	1.9	1.9	8.7	11.8	10.7	8.2	5.4	19.1	5.17	5.17	3.5	2	24
D/F - dioxin/furan (ng/dscm)	4.29	16.7	13.5	7.6	1.3	6.18	2.4	8.65	4.2	1.7			0.5		25
Hg - Mercury (ug/dscm)	18	8.1	27	48	9	12	54.1	2	5	4	2.8	2.8	2	2.2	28
Hg - Mercury (% reduction)	85.1	90.3	83.6	88.9	90.9	96	91.9	97.7	95.9	93.6			97		or 85%
Pb - Lead (ug/dscm)	40	18	26	35	41	51	101	143	180	360	72.4	72.4	40	35	400
Cd - Cadmium (ug/dscm)	3	1.8	2.1	7.3	8.6	5	10.7	18	19	32	6.74	6.74	6	6.7	35
HCl - Hydrogen Chloride (ppmv)	8.47	6.7	9.9	36.6	7.2	7.4	18.1	5.5	13.3	17.2			11.6		29
Fluorogen Chloride (% reduction)	98.4	98.4	98.3	95.1	98.9	98.9	97.4	99.6	98.4	98			99		or 95%
NH ₃ - Ammonia (ppmv)							0.21	0.4	2.9	3.4			1.5		10
A&B combined Hg (lbs/yr)	24.7	12.8	48.5	62.7	31.6	29.6	14.43	17.5	9.4	6.08			7.8		25
TOTAL										93.7			94		90%

NOTES

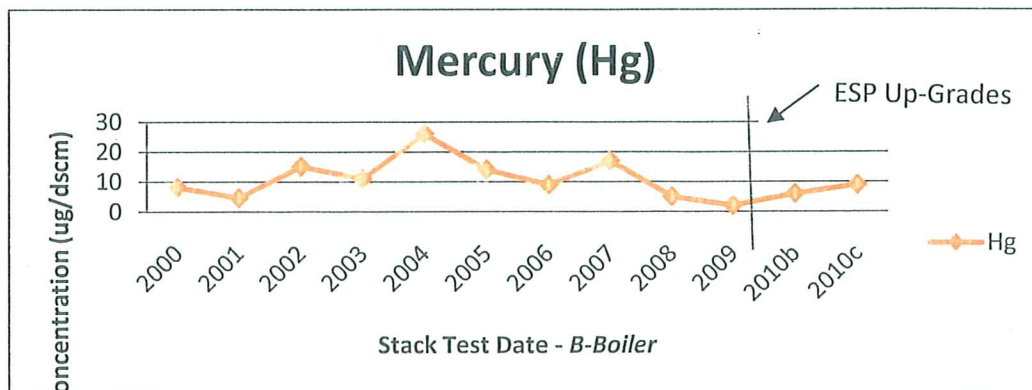
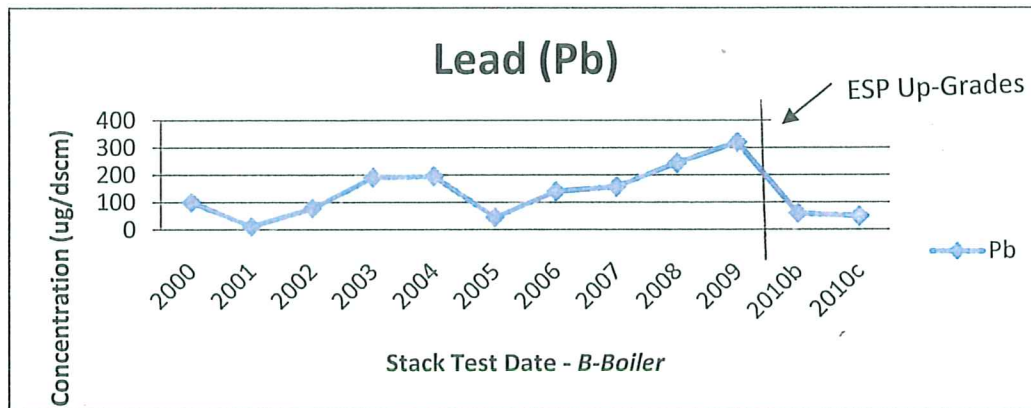
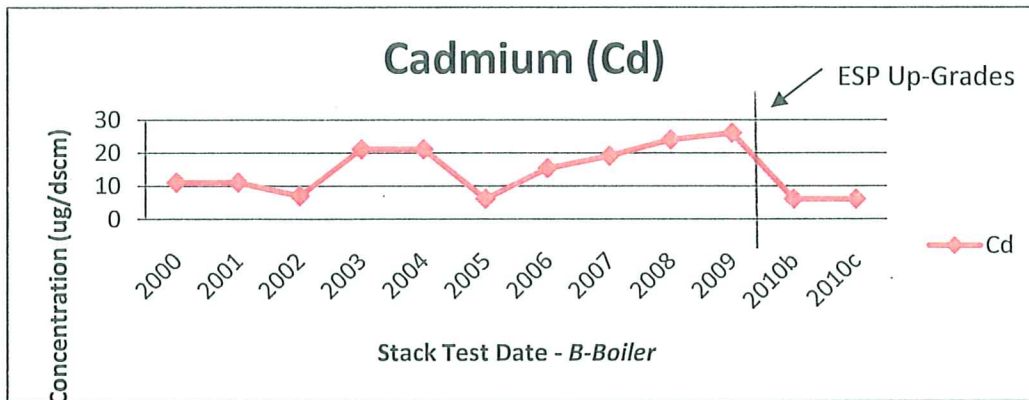
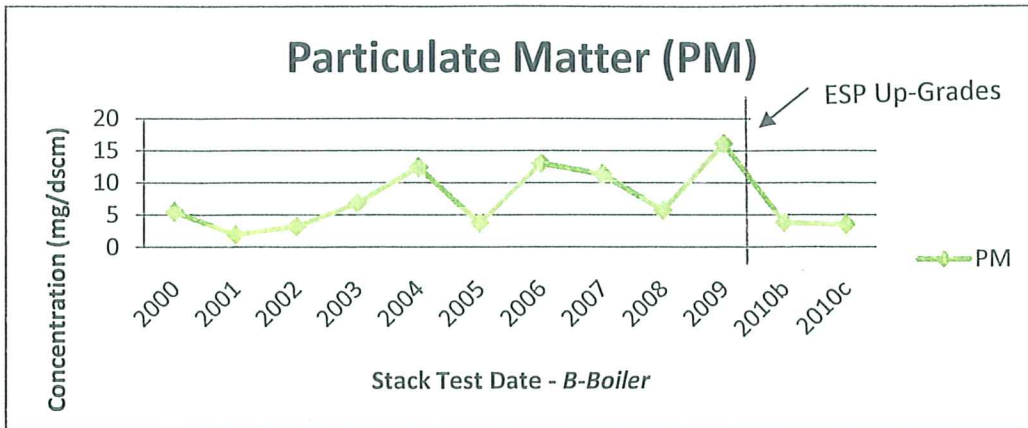
- all values corrected to 7 % O₂
- mg/dscm means milligrams (one thousandth of a gram) per cubic meter
- ug/dscm means micrograms (one millionth of a gram) per cubic meter
- ng/dscm means nanograms (one billionth of a gram) per cubic meter
- ppmv means part per million, by volume

2010a: in-house test in June 2010

2010b: annual compliance stack test November 2010

2010c: in-house test in November 2010

B-Boiler - Trend Plot of Historical Stack Test Data



B-Boiler	2010c										Emission Limit		
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		2010	
FWP - Particulate Matter (mg/dscm)	5.46	1.9	3.2	6.8	12.4	3.7	13	11.3	5.7	16.1	3.8	3.5	24
D/F - dioxin/furan (ng/dscm)	9.89	3.5	5.3	1.7	3.5	1.43	9.3	2.17	10.7	3.4	1.2		25
Hg - Mercury (ug/dscm)	8	4.5	15	11	26	14	8.9	17	5	2	6	9	28
Hg - Mercury (% reduction)	94.2	94.3	91.8	92.4	90.3	93	83.7	77.8	96.6	96.4	94.4		or 85%
Pb - Lead (ug/dscm)	100	11.8	78	190	195	45	140	157	244	320	60	50	400
Cd - Cadmium (ug/dscm)	11	11	6.9	21	21	6	15.2	19	24	26	6	6	35
HCl - Hydrogen Chloride (ppmv)	3.13	5.8	19.6	19.8	28.6	25.5	19.18	21.4	11.7	68.1	3.7		29
Hydrogen Chloride (% reduction)	99.4	99.4	96.9	98.2	96.2	95.5	97.5	96.6	99	95	99.5		or 95%
NH ₃ - Ammonia (ppmv)							0.61	0.8	0.7	0.7	2.7		10

NOTES

- all values corrected to 7 % O₂
- mg/dscm means milligrams (one thousandth of a gram) per cubic meter
- ug/dscm means micrograms (one millionth of a gram) per cubic meter
- ng/dscm means nanograms (one billionth of a gram) per cubic meter
- ppmv means part per million, by volume

2010b: annual compliance stack test November 2010

2010c: in-house test in November 2010

EREF ecomaine Grant Application Summary

In January, **ecomaine** submitted a grant application to Environmental Research and Education Foundation (EREF), a non-profit located in Raleigh, NC. EREF's mission includes promoting research to advance solid waste management.

ecomaine proposed a case-study for a commercial composting project entitled "*What Effect Will Diverting Plant and Food MSW Organic Material to a Commercial Composting/Anaerobic Digestion Facility Have on WTE Plant Emissions, Including Greenhouse Gases?*" We obtained help from Travis Wagner, professor at USM, and Bob Spencer, a compost expert who also spoke at **ecomaine's** annual meeting last June. The primary questions we hope to investigate include:

1. Does removing organic material reduce pollutants of concern in WTE plant emissions?
2. Will the diversion of compostable material result in a reduction of greenhouse gas (ghg) emissions?
3. Will compliance with EPA ghg regulations be difficult due to the reduction of biogenic CO₂ in flue gas and consequently will we generate higher levels of non-renewable CO₂?
4. Will the diversion of high-moisture organic material lower the need to use the supplemental fuel, natural gas, in the WTE boilers?
5. Can a cost-effective, state-of-the-art, composting/anaerobic digestion (AD) option be identified that complements **ecomaine's** current integrated solid waste management practice as well as **ecomaine's** commitment to the environment via ISO 14001?
6. Can the compost product be marketed in New England at a favorable price?
7. Will the overall benefits outweigh the costs in developing a large-scale composting/AD facility?
8. What are the next steps necessary to begin to implement a full scale composting program at **ecomaine**, including the identification of collection alternatives?

The project budget is \$125,000 and the EREF grant would provide \$98,500.

ecomaine would provide \$26,500 offered as "in-kind" labor over the 6-month project period from our environmental department along with USM students and guidance from Bob Spencer and Travis Wagner.

