

CONSTRUCTION AND DEMOLITION GENERATION, DISPOSAL AND INCINERATION: A MAJOR PROBLEM FOR NEW HAMPSHIRE AND THE REGION

I. OVERVIEW OF CONSTRUCTION AND DEMOLITION WASTE ISSUE

Generation of construction and demolition debris (C&D) is on the rise, and what to do with it is a problem not only facing New Hampshire, but the nation as a whole. In 2002, New Hampshire generated 238,001 tons of C&D waste, an increase of 78,000 tons over a three year period.¹ That same year New Hampshire also imported 162,000 tons of mixed C&D materials from Massachusetts² and another 317 tons from Vermont,³ bringing the year's total to a staggering 400,000 tons.

The U.S. Environmental Protection Agency (EPA) estimates that 136 million tons of building-related C&D debris was generated in the United States in 1996. The majority of this waste came from building demolition and renovation, and the rest came from new construction. Roughly equal percentages of waste are estimated to come from the residential and commercial building sectors.

C&D debris in New Hampshire is regulated as a solid waste under the provisions of the New Hampshire Solid Waste Rules.⁴ C&D waste typically contains bulky, heavy materials, and is comprised of debris generated from construction, renovation, repair, and demolition of roads, bridges, and buildings and includes, but is not limited to, brick, concrete and other masonry materials; wood; wall coverings; plaster; dry wall; plumbing; fixtures; insulation; roofing shingles; asphaltic pavement; glass; plastics; and electrical wiring/related components. As defined by New Hampshire Department of Environmental Services (NHDES), the term C&D debris does NOT include asbestos waste, garbage, corrugated container board, electrical fixtures containing hazardous liquids such as fluorescent light ballasts or transformers, furniture, appliances, tires, drums and containers, and fuel tanks.⁵

C&D waste presents an environmental conundrum for regulators. Landfills are running out of room and incineration releases massive toxic emissions into the ambient air. "The problem is, something needs to be done with these materials and there are no easy, cheap answers," said Brad Kuster, a Hopkinton resident and staff attorney for the Conservation Law Foundation, which petitioned the US Environmental Protection Agency to review

¹ NH 2002 Overview of Solid Waste, A Summary of New Hampshire's Solid Waste Information, NHDES R-WMD-03-6 (p. 3) (Appendix B).

² Concord Monitor "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004)

³ NH 2002 Overview of Solid Waste, A Summary of New Hampshire's Solid Waste Information, NHDES R-WMD-03-6 (Appendix B).

⁴ NHDES, Environmental Fact Sheet, WMD-SW-6 2000, Managing Demolition/Construction Debris (Appendix G).

⁵ NHDES, Environmental Fact Sheet, WMD-SW-6 2000, Managing Demolition/Construction Debris (Appendix G).

the state permits for Bio Energy. "But we just don't think that it makes sense to take a hazardous substance, burn it, and disperse it."⁶

The New England Region in particular is faced with an increasing problem with C&D waste disposal. Massachusetts is banning land-based disposal of C&D due the dwindling landfill availability and emission issues associated with C&D material decomposition in landfills. The result is an increasing trend towards processing and combusting C&D, often times at fuel wood-burning power plants.

Northward transport of C&D from other states for burning in Maine and New Hampshire is trending upward and quantities disposed of in Maine wood-burning plants have increased dramatically causing significant environmental and public health concerns. Permits are being sought for new and modified facilities in New Hampshire and Massachusetts.

Unfortunately, the problem has not been dealt with uniformly in the New England Region. While some states have banned the incineration of C&D outright, other states are in the process of imposing stricter controls on air emissions. Those states such as New Hampshire and Maine that have less restrictive requirements for C&D disposal offer cheaper costs for those companies in the business of C&D disposal. As a consequence, these states receive huge quantities of C&D from out of state and bare a disproportionate burden of C&D waste disposal and corresponding health and environmental risks.

II. DISPOSAL, PROCESSING AND RECYCLING OF C&D WASTE

Construction and demolition debris typically is either 1) disposed of in a landfill, 2) processed for reuse, 3) burned as fuel if permitted, or 4) salvaged by secondary building materials markets. Most C&D debris, however, is processed into landfill cover, fuel or aggregates.⁷

New Hampshire disposed of and processed 238,001 tons of New Hampshire generated C&D waste in 2002. Of this amount, 122,612 tons were processed, 6,681 tons were exported out of state and 120,858 were disposed of in landfills. The overall tonnage of C&D waste in 2002 was down from 256,572 in 2001 due ostensibly to the fact that C&D processing decreased in 2002 due to the closure of Petrofiber, Inc. in Henniker, which processed wood chips for incineration until its closure.⁸ New Hampshire also received 162,000 tons of mixed C&D from Massachusetts⁹ and another 317 tons from Vermont.¹⁰

⁶ Boston Globe, "N.H. PLANT'S PLAN TO BURN DEBRIS FUELS TOWN FEARS", Published on September 20, 2004 , Stephanie Ebbert, GLOBE STAFF.

⁷ NH 2002 Overview of Solid Waste, A Summary of New Hampshire's Solid Waste Information, NHDES R-WMD-03-6 (p. 5) (Appendix B).

⁸ NH 2002 Overview of Solid Waste, A Summary of New Hampshire's Solid Waste Information, NHDES R-WMD-03-6 (p.5) (Appendix B).

⁹ Concord Monitor "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004)

¹⁰ NH 2002 Overview of Solid Waste, A Summary of New Hampshire's Solid Waste Information, NHDES R-WMD-03-6 (Appendix B).

A. LANDFILLING C&D WASTE

Unique issues with landfill disposal of C&D debris are associated with the gypsum content in waste wallboard. The sulfate in gypsum, when disposed in landfills, reduces to hydrogen sulfide and can contribute to nuisance and adverse health related problems. Also, C&D waste tends to be bulky and takes up more space within landfills, hence the higher cost to dispose. For these reasons, the Department of Environmental Protection in Massachusetts, which estimates that the state generates about 500,000 tons of construction wood waste each year, is finalizing a regulation that would ban landfill disposal of all C&D debris.¹¹

In New Hampshire, the preferred method for dealing with C&D debris has been to bury it in landfills.¹² In 2002, C&D waste disposal in New Hampshire landfills increased by 3.4 percent over the previous year to 120,858 tons.¹³ Of the 238,001 tons of C&D waste generated by New Hampshire in 2002, 115,000 tons were disposed of in New Hampshire Landfills.¹⁴ Experts predict New Hampshire's landfills will be full within nine years.¹⁵

Maine is also experiencing problems with the disposal of C&D waste. Between 1999 and 2001, the amount of construction and demolition debris in Maine increased by 35 percent, a figure that caused the state to call for more ideas on ways to deal with the waste.¹⁶ Unless they are further expanded, current space limits for landfills in Maine will be reached within 23 years.¹⁷

B. PROCESSING OF C&D WASTE

The C&D waste that is not directly land filled is processed into wood chips that are used as fuel or landfill cover. Of the 238,001 tons of New Hampshire C&D generated in 2002, 122,612 tons were processed.¹⁸

In 2002, three plants processed C&D waste: Environmental Resources Recovery Corp. (ERRCO) in Epping, LL&S Wood Processing Plant in Salem and Turkey Landfill in Rochester. **These processors took in 173,000 tons of C&D waste, 93.6 % of which was from Massachusetts.** An additional 25,000 tons ended up in landfills.¹⁹

¹¹ NH 2002 Overview of Solid Waste, A Summary of New Hampshire's Solid Waste Information, NHDES R-WMD-03-6 (p.1) (Appendix B).

¹² Concord Monitor "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004)

¹³ NH 2002 Overview of Solid Waste, A Summary of New Hampshire's Solid Waste Information, NHDES R-WMD-03-6 (p.ii, 5) (Appendix B).

¹⁴ NH 2002 Overview of Solid Waste, A Summary of New Hampshire's Solid Waste Information, NHDES R-WMD-03-6 (p.5) (Appendix B).; (Letter from Anthony P. Giunta, P.G., Director, Waste Management Division, NHDES, October 19, 2004 (Appendix A)

¹⁵ Concord Monitor "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004)

¹⁶ Concord Monitor "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004).

¹⁷ Concord Monitor "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004).

¹⁸ Letter from Anthony P. Giunta, P.G., Director, Waste Management Division, NHDES, October 19, 2004 (Appendix A).

¹⁹ Letter from Anthony P. Giunta, P.G., Director, Waste Management Division, NHDES, October 19, 2004, (Appendix A).

Petrofiber, another waste processor located in Henniker, NH, reopened for business in 2004 after sitting dormant for several years. The amount of C&D materials currently being processed by Petrofiber is unknown and figures for the years 2003 and 2004 are not presently available from NHDES.

C. INCINERATION OF PROCESSED C&D WASTE

Incineration of C&D waste is new to New Hampshire, but has a long history in other parts of the nation. The EPA estimates that more than 4.7 million tons, more than a tenth of “urban wood waste” nationally, currently goes up in smoke. Approximately 1.3 million tons (more than 25 percent of the national total) is burned in California alone.

In 2003, a good portion of New Hampshire’s 182,000 tons of C&D was burned out of state. ERRCO and LL&S accept a total of 156,000 tons of imported C&D from out of state, and then separate out the wood to be burned in Maine. LL&S did not release figures, but most of the 60,000 tons of wood separated out by ERCCO goes to Maine incinerators. “Almost all the wood is burned,” said Leo Larochelle, the ERRCO facility manager. The plant has been sending C&D wood chips to Maine incinerators for at least eight years.²⁰

In New Hampshire, C&D waste is accepted and incinerated by New Hampshire’s two waste-to-energy facilities, operated by Wheelabrator, Inc., one in Penacook and the other in Claremont.²¹ At its Claremont Incinerator, Wheelabrator incinerated 317 tons of C&D waste from Vermont, an amount that is double the 159 tons of New Hampshire generated C&D waste incinerated by the same facility.²²

In New Hampshire, environmental officials are finishing work on permits to make the Bio Energy plant in Hopkinton the first in the state to generate electricity by burning wood separated from C&D. The plant has been permitted to burn approximately 193,000 tons of C&D each year. That is more C&D waste than New Hampshire currently produces.²³

1. TOXINS RELEASED FROM INCINERATION OF C&D WASTE

Faced with increased waste generation of C&D debris and dwindling landfill space, state agencies have turned increasingly to incineration as a disposal alternative. C&D wood “chips,” however, commonly contain lead, arsenic, manganese, zinc, cadmium, chromium, mercury, and asbestos. These and other toxins emitted into the ambient air through C&D incineration can cause brain damage and illness to humans. Children are particularly vulnerable to the harmful effects of environmental toxins because of their still developing nervous systems

²⁰ Concord Monitor “Bio Energy foes: State may become ‘dumping ground.’” (November 8, 2004)

²¹ NHDES, Environmental Fact Sheet, WMD-SW-6 2000, Managing Demolition/Construction Debris (2000) (Appendix G).

²² NH 2002 Overview of Solid Waste, A Summary of New Hampshire’s Solid Waste Information, NHDES R-WMD-03-6 (Appendix B).

²³ Concord Monitor “Bio Energy foes: State may become ‘dumping ground.’” (November 8, 2004)

Current Poor Air Quality and Related Health Problems in New Hampshire

Additional toxic emissions from C&D debris incineration would exacerbate already compromised air quality in New Hampshire. According to the EPA, the current quantities of toxic air pollutants in New Hampshire, exceed federal safety benchmarks in every county, and contribute to dangerous levels of mercury in waterways. Pollution from power plants already contributes to New Hampshire having the fourth highest rate of asthma in the nation.²⁴

Due to climatic factors like the jet stream and the geographic location of the state, everything from traffic and coal-fired power plants in the Midwest to heavy industry in Canada has an effect on New Hampshire's air quality.²⁵ Automobile and power plant emissions, such as sulfur dioxide, nitrogen oxide, mercury, ozone, and particulate matter, are associated with hospitalizations, asthma attacks, low-birth weights, stunted lung growth, cancer, and even infant death. It is not surprising, then, that New Hampshire has an asthma rate significantly higher than other areas of the nation. In 2001, 8.4% of adults reported that they currently suffered from asthma, a figure 1.3% above the national average.²⁶ In another study from 2001, 12.5% of the state's adults reported having had asthma at some time during their life.²⁷

Hillsborough and Rockingham Counties continue to have the worst air in the state. As of October 2003, both counties had experienced more than 13 days considered unhealthy for sensitive groups, meriting an F grade from the American Lung Association. The current air quality ratings for both Strafford and Merrimack Counties have fallen a full grade from previous scores.²⁸

Despite the poor air quality in New Hampshire, Bio Energy (Bio Energy, LLC and Regensis collectively) proposes to operate a solid waste incinerator in West Hopkinton that would burn primarily C&D debris, most coming from outside the state. Bio Energy's recently awarded permit from DES allows them legally to emit up to 64 tons of toxic and hazardous air pollutants into the air per year. 87 different toxic and hazardous pollutants make up the 64 tons, including 2.67 tons of lead and 31 pounds of mercury.

Lead Inhalation and Ingestion

Lead is easily inhaled or ingested and then absorbed into the human body. Unlike other metals, lead has no known physiological role in the human body. It can, however, cause harm to the body by substituting for physiologically important metals such as calcium and iron. Lead is especially harmful to the developing nervous systems of fetuses and

²⁴Physicians For Social Responsibility, *A Breath of Fresh Air* (January 2004, p.1) (Attachment D).

²⁵Physicians For Social Responsibility, *A Breath of Fresh Air* (January 2004, p.1) (Attachment D).

²⁶New England Asthma Regional Council. Asthma in New England, Part I: Adults. May 2003. Available: www.asthmaregionalcouncil.org. Access 10-06-03.

²⁷Wilson J. New Hampshire Department of Health and Human Services, Office of Community and Public Health. Asthma in New Hampshire, 1990-2001. March 2003. Available: <http://www.dhhs.state.nh.us>. Accessed 9-14-03.

²⁸Physicians For Social Responsibility, *A Breath of Fresh Air* (January 2004, p.2) (Attachment D).

young children.²⁹ Today, scientists, physicians and public health officials know that lead affects nearly every system in the human body. It can damage the kidneys, the nervous system, the reproductive system, and cause high blood pressure. Lead exposure causes low sperm counts in men and increases the likelihood of stillbirth and miscarriage among women, and it can lead to a host of neurological problems including impaired cognitive development in children and increased behavioral problems among children and adults.³⁰

This is especially troublesome given that from 1998 to 2001, a high proportion of New Hampshire's adults had elevated levels of lead in their blood. According to the National Environmental Trust, the average number of cases of elevated blood-lead levels in New Hampshire was 28.4 per 100,000, a rate second only to Pennsylvania.³¹

The latest lead concern in the state is in Hopkinton. NHDES and the EPA have approved a permit allowing the town's power plant, Bio Energy, to release up to 2.67 tons of lead emissions each year, an amount that would make Bio Energy New Hampshire's largest fixed source of lead emissions by a wide margin.³²

Nevertheless, NHDES has permitted Bio Energy to emit 2.67 tons of lead based on 1991 data stating an acceptable blood lead level of 10 micrograms/dL. It is important to note that "acceptable" levels DO NOT MEAN SAFE levels. In the nuclear age, what was once considered "acceptable levels" of radiation were ultimately found to contribute to hundreds of cases of thyroid cancer. When Bio Energy reports that the levels of lead emitted from their plant "do not pose a human health risk based on predicted blood lead (PbB) concentrations from assumed exposure to emitted lead", they are simply stating that the concentrations fall within the NHDES interpretation of "acceptable" guidelines from 1991 standards.

There is a growing body of medical literature which demonstrates that the lead levels established in 1991 are too high. In April 2003, for example, the New England Journal of Medicine reported impaired IQ's directly linked with lead levels substantially below what some consider an "acceptable" level of 10 micrograms/dL. In fact, in that article and others since, a direct relationship was found between elevated blood lead levels and lower IQ's; the higher the lead level, the lower the IQ.

Despite these concerns, Bio Energy continues its plans to start burning construction debris, including wood chips containing lead paint and other chemicals, to generate electricity as early as January 2004. Local residents, concerned about lead levels in both air and water, instituted litigation that has stalled start up. Six schools and a population of

²⁹ <http://parents.berkeley.edu/advice/health/lead.html>

³⁰ <http://www.loe.org/series/lead2003/>; see CDC fact sheet: <http://www.cdc.gov/exposurereport/leadfactsheet.htm>; see also EPA @ <http://www.epa.gov/lead>

³¹ Physicians For Social Responsibility, A Breath of Fresh Air (January 2004, p.4)(Attachment D).

³² Boston Globe, "N.H. PLANT'S PLAN TO BURN DEBRIS FUELS TOWN FEARS", Published on September 20, 2004, Stephanie Ebbert, GLOBE STAFF

10,000 live within a five-mile radius of the plant, which is also located 250 feet away from the Contoocook River.³³

Warnings from The Centers for Disease Control (CDC) support the residents concerns. The CDC has cautioned, for example, that lead-based paint debris “must be contained and transported in such a way as to prevent the dispersal of lead bearing dust, chips, or liquid into the environment. **Lead debris should never be sent to a solid waste incinerator, a disposal method that disperses lead into the air.**”³⁴

As Mary Jean Brown, head of the Center for Disease Control’s Lead Poisoning and Prevention Program, has stated, “There is no safe level of lead. Even a small contribution, especially in small children, is not something we want to happen... We don’t want to increase the blood levels of those individuals by even one microgram if it can be prevented.”

Mercury Inhalation and Ingestion

Mercury is one of the most serious smokestack pollutants that end up affecting health and the environment throughout the Granite State. More than one-third of all mercury pollution in the U.S. is emitted by coal-fired power plants. The toxic substance remains airborne for long distances, so much so, that close to one-third of the state’s mercury from anthropogenic sources originates in the Midwest. But the state’s own coal-fired power plants, the Merrimack and Schiller plants; contribute their own emissions of the toxic substance, an estimated total of 150 pounds in 2000.³⁵

The airborne pollutant is deposited in New Hampshire’s lakes and rivers where it is incorporated first into bacteria and converted to its more toxic organic form known as methylmercury. Methylmercury then eventually makes its way up the food chain into fish, accumulating and concentrating over time. Expectant mothers who eat the contaminated fish expose their fetuses to the toxin, which interferes with the development and function of the central nervous system, resulting in learning disabilities and attention deficits later in life.³⁶ Mercury can also have adverse effects on both developing and adult cardiovascular systems, blood pressure regulation and heart-rate. Mercury contamination in freshwater fish is such a widespread problem that 48 states, including New Hampshire, have issued specific fish consumption advisories based on the threat of mercury poisoning.³⁷

³³ Physicians For Social Responsibility, *A Breath of Fresh Air* (January 2004, p.4) (Exhibit D).

³⁴ Centers for Disease Control, U.S. Department of Health and Human Services, *Preventing Lead Poisoning in Young Children*, (October 1991, p.74)(Exhibit C).

³⁵ Physicians For Social Responsibility, *A Breath of Fresh Air* (January 2004, p.1) (Attachment D).

³⁶ Physicians For Social Responsibility, *A Breath of Fresh Air* (January 2004, p.3)(Attachment D).

³⁷ Physicians For Social Responsibility, *A Breath of Fresh Air* (January 2004, p.3)(Attachment D).

For the past two years, New Hampshire has received the worst grade of any New England state from the New England Zero Mercury Campaign for its lax efforts to curtail mercury emissions and eliminate the mercury threat to children.³⁸

In accordance with the requirements of RSA 125-O “*Multiple Pollutant Reduction Program*,” New Hampshire Department of Environmental Services (DES) is required to recommend to the legislature, by March 31, 2004, a cap for both mercury and CO₂ emissions for fossil fuel burning power plants. This law also sets the expectation of consideration by the legislature by July 2005.³⁹ NHDES thereby recommended in accordance with Section 125-O: 3, III, a two phased approach to implementing a mercury cap. The first phase recommended a 50 pound per year cap beginning one year following the compliance deadlines established in federal regulations limiting mercury emissions from affected sources. The second phase recommended a cap of 24 pounds per year to be implemented four years thereafter.⁴⁰

Given the directive to reduce the amount of mercury emitted from New Hampshire industry, NHDES’ decision to permit Bio Energy to become a new source of 31 pounds of mercury annually is inconsistent with state policy.

2. NON-PERMITTED HAZARDOUS WASTE INTRODUCED BY C&D DEBRIS INCINERATION

Environmental scientists have noted that, in addition to the legally permitted toxic waste materials burned in C&D incinerators, many other “non-permitted” toxins can easily become inadvertently incorporated into the fuel mix. Because the sorting of the mass jumble of C&D debris is conducted visually, “non-permitted” hazardous substances are often missed and, thus, inadvertently incinerated. Moreover, testing so-called “grab samples” of the chips can not prevent this problem, as it is impossible to obtain a sample that accurately represents the whole mix. In Florida, for instance, a large percentage of wood treated with copper chromium arsenate was found in the fuel at one incinerator plant, even though it was supposed to be screened out. Although such wood can no longer be used for building – because of toxic contaminants escaping into environment – an increasing amount is expected to fall into the waste stream over the next few decades.

In New Hampshire, the NHDES discovered that Bio Energy released an unknown amount of lead into the air from the unauthorized burning of C&D debris obtained by the company from Brooklyn, New York. At the time, Bio Energy was permitted to only burn “clean” chips derived from virgin wood. The infraction was discovered when an ash test performed in September 1995 revealed high levels of lead. The company was involved in a program that allowed it to spread wood ash over farmland and landfills. To qualify for the program, the ash could contain no more than 700 milligrams of lead per kilogram of ash. Bio Energy’s ash contained more than three times the limit according to a laboratory report dated Sept. 13, 1995.

³⁸ Physicians For Social Responsibility, A Breath of Fresh Air (January 2004, p.3)(Attachment D).

³⁹ Letter from Michael P. Nolin, Commissioner NHDES (March 31,2004) (Attachment E)

⁴⁰ Letter from Michael P. Nolin, Commissioner NHDES (March 31,2004) (Exhibit E)

The state Department of Environmental Services found no evidence that Bio Energy knew the wood was tainted, and imposed no penalties against the company. But the state was not monitoring lead emissions into the air, and the environmental department's air resources division was not contacted about the problem, said Tom Niejadlik, Toxics Manager for the air division. "Why we were not notified, I don't know," Niejadlik said. "If we did know about it, there would have been some regulatory action," he said. "They were not allowed to burn material that had lead in it."

III. NEW HAMPSHIRE'S FUTURE AS A DUMPING GROUND FOR C&D WASTE UNDER CURRENT PLANS

Unfortunately, positions taken recently by the NHDES with regard to C&D management, make New Hampshire a prime depository for out-of state C&D waste disposal and incineration. NHDES, for example, is finishing work on permits to make the Bio Energy plant in Hopkinton the first in the state to generate electricity by burning wood separated from construction and demolition debris. The plant would be permitted to burn approximately 193,000 tons of C&D each year-- more than New Hampshire currently produces.⁴¹

There is, in fact, strong reason to believe that the Bio Energy plant will be accepting waste from beyond the state borders, whether directly or indirectly. Landfills are growing crowded, and Massachusetts is working on plans to ban construction and demolition debris from its dumps altogether. Maine, the only New England state currently burning wood from the debris, has seen an explosion in construction waste in recent years. And some New Hampshire waste that is currently trucked out of state could be cheaper to dispose of locally.⁴²

Some fear that plants like Bio Energy will soon spring up throughout the state, seeking to capitalize on the large profits that can be made by taking wood waste out of the garbage stream. It costs \$10 to \$20 less per ton to process wood chips for incineration than to landfill them, said Leo LaRoche, the manager of a plant in Epping that processes construction waste.⁴³

A plant in Alexandria is already partially permitted to burn construction and demolition debris, but it is not operational. At least one of five other local wood-burning plants is considering switching from expensive clean wood sources to wood from construction and demolition waste.⁴⁴

New Hampshire already imports 162,000 tons of mixed construction and demolition debris from Massachusetts alone, according to the state NHDES. Because Massachusetts environmental officials are working on a regulation to ban land-filling of C&D waste,

⁴¹ Concord Monitor, "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004)

⁴² Concord Monitor, "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004)

⁴³ Concord Monitor, "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004)

⁴⁴ Concord Monitor "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004)

more of the 5 million tons created in the state each year could end up in New Hampshire and other states, said Ed Coletta, spokesman for the Massachusetts Department of Environmental Protection.⁴⁵

Both Massachusetts and New Hampshire send C&D debris to Maine, which has four plants similar to Bio Energy. But since transporting the debris can cost between \$1.20 and \$2 per mile, it would be cheaper for Massachusetts companies getting rid of the waste to ship it to New Hampshire, not Maine.⁴⁶

Also, if Bio Energy and similar plants begin operating in New Hampshire, the state's self-generated C&D debris that is now burned in Maine would likely remain in NH. Local plants that separate the wood from the debris could sell the wood cheaper to nearby incinerating plants, LaRochelle said. One ton of wood sent far north into Maine costs up to \$15 per ton, but nearer plants would charge as little as \$5 per ton.⁴⁷

For processors of C&D debris such as Bio Energy's sister corporation, Petrofiber, the incentive to take in C&D waste is extremely lucrative. The cost to dispose C&D waste ranges from approximately \$80.00 to \$100.00 per ton at commercial landfills.⁴⁸ If Bio Energy operates at 90 percent (this is the efficiency rate Bio Energy claims it will operate at) of its permitted levels (529 tons per day) and Petrofiber takes in C&D at the same rate, then its owners will make \$13,902,120 to \$17,377,650 per year.

Nine other wood-fired power plants are poised to take advantage of the economic benefit of burning C&D debris as fuel if Bio Energy is permitted to operate.. These plants do not have anti-pollution devices that would effectively limit the amount of emissions and are equipped with boilers originally designed for burning clean wood that cannot efficiently handle C&D waste fuel. —These plants include: Alexandria Power Plant, Alexandria; Hemphill Power and Light, Springfield; Timco, Barnstead; Pinetree Power, Tamworth; Whitefield Power and Light, Whitefield; Pinetree Power, Bethlehem; Bridgewater Power, Ashland and another plant in Raymond.

IV. PROBLEMS WITH DISPOSAL AND INCINERATION OF C&D WASTE IN MAINE—NEW HAMPSHIRE'S FUTURE?⁴⁹

In Maine, at least four incinerators were permitted to burn C&D waste, though they were limited to 50 percent of the plant's capacity (unlike Bio Energy that seeks 100% C&D). Three of the four are owned by the Montreal-based Boralex Inc. One, in Athens, recently shut down. Another, located in the western mountains of Statton, uses fuel containing less than one third C&D waste, according to facility operator Steve Hall. Even with hefty

⁴⁵ Concord Monitor "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004).

⁴⁶ Concord Monitor "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004).

⁴⁷ Concord Monitor "Bio Energy foes: State may become 'dumping ground.'" (November 8, 2004).

⁴⁸ Letter from Anthony P. Giunta, P.G., Director, Waste Management Division, NHDES, October 19, 2004 (Attachment A).

⁴⁹ Information for this section provided by Maggie Drummond, Grassroots Programs Coordinator., Maine League of Conservation Voters.

transportation costs, C&D wood chips cost some \$12 - \$18 a ton, whereas the whole tree chips next door cost \$25 a ton, Hall said. Boralex Livermore plant gets a lot more C&D debris because it is in the Southern part of the state closer to its sources in Massachusetts and New Hampshire.

All told Maine-based incinerators burned more than 290,000 tons of C&D waste in 2002, according to Maine Department of Environmental Protection. More than 240,000 tons were from out of state, and roughly half of that total was from New Hampshire.

A major problem in Maine is the high rate of growth of the C&D waste stream. According to the state planning office, Maine's recycling rates dropped 3 percentage points in the most recent data due primarily to availability of C&D waste incineration as an option for removal. Because of the growing waste stream, the state is pressured to find a way to get rid of it. The Biomass facilities cannot operate simply on "clean" wood waste anymore and stay in business; with the struggles of the paper and timber industries in Maine, there simply is not enough fuel to keep these facilities running without adding in C&D waste to the mix.

At least five percent of Maine's urban wood is painted, according to the DEP. The Athens and Livermore plants both accept painted wood. Both are limited, however, to release about one half ton of lead per year into the air and were required to implement Best Available Control Technology (BACT). In contrast, NHDES has granted a permit to Bio Energy allowing them to emit 2.67 tons of lead and to operate without BACT. New Hampshire has permitted Bio Energy to emit more lead than all the Maine C&D waste incinerators combined.

Maine still permits burning C&D wood, though Boralex stopped accepting such waste voluntarily last year. The Boralex Athens's plant, however, shut down after one of its wood piles caught fire and was cited by Portland based "Toxics Action" because the plant was allegedly burning too much plastic. The plant is negotiating a consent order with the state DEP regarding emission violations concerning the wood pile fire and carbon monoxide emissions. (The Livermore plant did sign a consent agreement for violations between 1995-2000, concerning carbon monoxide and nitrogen oxide emissions.)

The fire at the facility in Athens, Maine occurred due to mismanagement of an oversized waste pile. Because the waste had not been properly sorted, and because it burned in the open air, it produced a black smoke that spread over the community and sent area residents to the hospital. The incident alerted residents to what was going on at the facility. According to their permit, the company should have had an independent third party sorter to remove toxic materials from the pile. Instead, the waste was being sorted by a company that stood to profit from sales on loads of waste to the company. This was the major problem that pressured the DEP to fine the company. In addition, the permit was very vague about how much toxic material could be left in the pile before it went into the stack. Sorting of permissible waste was conducted by visual inspection of the pile – the same method approved by NHDES for use by Bio Energy.

Officials at the Athens facility did not report the fire to the DEP until it had burned for over a week. Even after it was reported, the fire was not immediately extinguished, and-

it ended up smoldering for almost a month. The company admitted in public meetings organized by a local group of citizens that fires happen frequently in their piles; that they are virtually unavoidable. It should be noted the waste pile oversight protocols used by the Athens facility are the same as those approved for Bio Energy by NH DES and the EPA.

Since the fire, the Maine DEP has admitted that regulation of C&D waste burning in biomass boilers is something that needs to be re-worked, but Maine has still seen no real progress. Maine continues to have problems with emissions levels: Biomass boilers cannot consistently keep the required temperature to burn off toxic chemicals, and unapproved waste continues to slip into the C&D waste.

V. HEALTH COSTS ASSOCIATED WITH REDUCED AIR QUALITY⁵⁰

- Over 20,000 New Hampshire children suffer from asthma. Studies focusing on hospital visits capture only a small fraction of the real asthma problem. It is estimated that only 1/10 of 1% of people who suffer during a bad air quality day are counted in the majority of health studies. Some of those undercounted individuals are being assessed in a groundbreaking new study correlating poor air quality and pulmonary function among children, now underway at the University of New Hampshire.⁵¹
- More than 78,000 adults in New Hampshire have asthma
- In 2000, New Hampshire residents made close to 6,800 asthma-related visits to hospital emergency rooms, at a cost of \$3.3 million.
- That same year, there were close to 800 asthma related hospitalizations, mainly among the state's most vulnerable residents— children under 5 and adults over 75. Medical costs for hospitalizations amounted to \$4.1 million, an added burden to New Hampshire's Health care system.
- In 2000, 18 New Hampshire residents died from asthma, which is double the number in 1990.

VI. COORDINATED REGIONAL PLAN

The Air Directors in Maine, Vermont, New Hampshire and Massachusetts all believe that the issue of C&D waste incineration and disposal is an issue of regional significance worthy of a regional approach. MA DEP Commissioner Robert Gollidge expressly stated his concern over the issue of regional inequities in the emissions control requirements imposed on such facilities. He stated that MA DEP will be imposing controls more stringent than BACT requirements for the proposed plant in Southeastern Massachusetts. That plant will be the first to be operated in Massachusetts.

⁵⁰ Physicians For Social Responsibility, *A Breath of Fresh Air* (January 2004, p.2) (Exhibit D).

⁵¹ Physicians For Social Responsibility, *A Breath of Fresh Air* (January 2004, p.2) (Exhibit D).

A. INITIATIVE:

NESCAUM will be developing with the Northeast Air Directors an outline for an initiative to review potential emission control technology options for plants seeking to combust this material. The review would likely result in a recommendation to implement cost effective emissions control requirements. Although details are not yet available, the initiative could include a cooperative effort with NESCAUM's sister agency, NEWMOA, to assess solid waste and land filling issues.

NESCAUM would need to obtain funding for undertaking the review. Many potential sources are available. It would be up to the individual states to implement the recommendations from such an initiative. This process could be facilitated through a New England Governor's Conference Resolution.

B. RELEVANCE IN NEW HAMPSHIRE:

The championing of the above-described pollution control initiative could establish environmental leadership by the incoming administration; an easy sell due to the apparent inclination of neighboring states to proceed down this pathway. In addition, it could provide breathing room and a political/environmental imperative for addressing the permitting of Bio Energy. Specifically, Bio Energy is, at the time of this writing, required to undertake further state and local permitting prior to being able to complete its project. Rather than a potential permit denial by an executive branch agency, the review process and results can provide the latitude and leverage to finesse an appropriate resolution – depending on the outcome of the NESCAUM initiative and the applicant's willingness to consider alternative permitting pathways (e.g. additional emissions controls). It is likely that the NESCAUM project can be completed before local and state permitting reviews for Bio Energy are complete.

C. CLEAN-UP EXISTING COAL-FIRED POWER PLANTS AND OPPOSE NEW PLANTS

The coal-fired power plants of New Hampshire are making progress in reducing their air emissions, but much remains to be done. In February of 2003, for example, a state power plant bill aimed at reducing mercury emissions from coal-fired power plants was unsuccessful. And with the national roll back of Clean Air Act rules affecting power plant emissions, the Midwest's dirtiest coal-fired utilities are significantly less likely to strengthen pollution controls or to reduce emissions. In an effort to address the amount of air pollution that the state receives from other states, New Hampshire joined other Northeastern states in suing the EPA for the rollback. Efforts such as this need to continue.

D. RECYCLING C&D:

C&D waste is difficult to dispose of because it is usually an extremely bulky material and it takes up an inordinate amount of space in landfills. But, it always contains some

valuable recyclable or reusable materials. Theoretically, all of the inert waste that makes up C&D debris is recyclable.

Reusing and recycling C&D waste can have a number of benefits. As with many recycling programs, advantages may not be seen immediately, but instead are long-term benefits. Benefits include: cost savings from avoided landfill disposal fees, cost savings as a result of reusing products rather than purchasing new products, possible revenue generation from the sale of recycled materials, and the conservation of valuable landfill space and the protection of the environment. Additional savings would come from avoiding downstream expenses resulting from environmental contamination and human health effects (e.g., legal fees, expert fees, clean up fees, lost revenues due to work stoppages, cost of educating students who become neurologically impaired, health insurance and health care costs in general, costs associated with criminal behavior).

VII. BIOENERGY IS NOT PART OF THE SOLUTION

Biomass facilities, which turn organic material such as wood and agricultural waste into energy, were built in the 1980s, spurred by a federal law aimed at lessening the nation's dependence on foreign oil and encouraging cleaner sources of energy. Many forged contracts with utilities guaranteeing generous payments for 20 years, based on high projected oil prices; but oil prices later fell, resulting in the utilities paying steep subsidies from their own ratepayers. Public Service of New Hampshire, the state's largest power provider, began buying out the expensive contracts in the 1990s; Bio Energy shuttered its operations several months after its contract was bought out in 2002 for millions of dollars.⁵²

Bio Energy, which generated electricity by burning wood for nearly two decades, now plans to trade in its clean wood chips for construction and demolition debris -- a much cheaper fuel, but one that could contain chips of old lead paint and other toxic materials. Under a permit granted by the NHDES, the plant would be allowed to release 64 tons of hazardous air toxins, including 2.6 tons of lead and 31 pounds of mercury, into the air each year. The highest concentrations of those toxins will rain down on Contoocook Village, Hopkinton Village, Henniker, numerous schools, the Contoocook River and 10,000 people who live within a five mile radius of the Bio Energy Plant.

The Bio Energy smoke stack is less than 250 feet from the Contoocook River; a major source of drinking water for Concord. At a time when pregnant women are warned against eating fish from the Contoocook River, the introduction of additional toxins is unthinkable. That is precisely why the New Hampshire Medical Society, the New Hampshire Academy of Pediatrics and the New Hampshire Society of Family Practitioners have all gone on record to warn New Hampshire citizens that the amount and types of toxins Bio Energy intends to send into the air create an imminent danger of harm to the citizens of this State. That is why New Hampshire's Legislative Representatives, Stretch Kennedy, Barbara French, Derek Owen, Christine Hamm, State Senator Sylvia Larsen, and Governor's Council Member Peter Spaulding have supported

52 Boston Globe, "N.H. PLANT'S PLAN TO BURN DEBRIS FUELS TOWN FEARS", Published on September 20, 2004 , Stephanie Ebbert, GLOBE STAFF

legislation that would impose anti-pollution technology on Bio Energy. That is why the Hopkinton Selectmen have gone to court to stop a company that refuses to obtain building permits and town approvals before opening its doors. That is why the Sierra Club, Toxics Action, CLEAR, Clean Water Action, the NH Public Interest Research Group, The Children's Alliance, the Army Corps of Engineers, the St. Anselm's College faculty, the Colby Sawyer College faculty, the Legislative Caucus for Young Children, Governor-Elect John Lynch US Representative Charles Bass and countless others in a bi-partisan coalition have all voiced concern over Bio Energy's project that now threatens the fabric of our state and communities.

Bio Energy's paid political lobbyists, attorneys and public relations consultants have aggressively opposed legislation drafted by NHDES that would have required Bio Energy to install the best available control technology (BACT). Michael P. Nolin, Commissioner of NHDES stated in support of requiring BACT that, *"While we realize that this may impose additional equipment and operational costs on affected facilities, we feel that the economic advantage gained in combusting these non-virgin materials justifies the additional costs."*

The refusal of Bio Energy to implement BACT stands in sharp contrast to the requirements being formulated in Massachusetts' incinerators involved in the burning of C&D waste. EcoPower LLC received an advisory opinion that it would qualify for renewable energy certificates as long as it satisfies Massachusetts' criteria by using advanced pollution-control technology and clean fuel, and by meeting state emissions standards. Massachusetts will require utilities to buy 4 percent of their energy from renewable sources by 2009, creating a market for that energy. The renewable certificates sold by alternative energy plants can double the value of the electricity they produce and make green energy more economically feasible.

Widespread outcry over Bio Energy's incineration plans stem from the fact that William Dell'Orfano, as President of Bio Energy, has thumbed his nose at any local review of the facility, has violated the Clean Air Act, has unlawfully and without permission from the State burned C&D debris containing lead, has rearranged the complex corporate structures to hide Mr. DiNapoli's involvement in the company (a convicted felon), and who now intends to haul toxic substances from out of state in order to emit them into New Hampshire's air and water for a net profit of tens of millions of dollars each year.

Most recently NHDES, Waste Division, has served notice on Bio Energy's operating company, Regenisis Corporation, that it intends to revoke its waste permit that would have permitted Bio Energy to incinerate C&D waste. NHDES noted that Bio Energy "failed to demonstrate sufficient reliability, expertise, integrity, and competence to operate a solid waste facility."⁵³ This was based on certain certifications made in the permit application by William Dell'Orfano, President of Bio Energy and Regenisis, that none of its principals has been convicted of a felony and that proper notice of the public hearing had been made to abutters. NHDES determined that "Mr. Dell'Orfano made a false or misleading statement when he certified on December 2, 2002, that none of Bio

⁵³ NHDES Notice of Permit Action (Attachment H)

Energy’s officers or directors had been convicted of a felony...” and found it also “misleading not to inform DES that the company holding the permit had been dissolved three months prior to the application.” Accordingly, DES concluded that “DES’ decision to transfer the permits was based on false or misleading information” and that consequently the permit may be revoked.⁵⁴

⁵⁴ NHDES Notice of Permit Action (Attachment H)