Exhibit 4

1/21/16

To the Springfield Public Health Council

Environmental Regulators' Fines Are Often Miniscule

In rebuttal of PRE's engineer's claims that the DEP will severely punish permit violations, the attached Daily Hampshire Gazette editorial of 12/21/2015 references the thousands of permit violations perpetrated by Mt. Tom power plant over five years, with only two fines- $40,814 and $70,000. These amounts would barely register on a power plant's income statement.

At no time was Mt. Tom's parent company asked to shut down the offending plant.

Thank you for your consideration of this issue.

Stuart and Lee Ann Warner

Stop Toxics Incineration in Springfield

GAZETTENET.com

Published on *GazetteNet* (http://www.gazettenet.com)

Print this Page

Editorial: Clean energy future may dawn for shuttered Holyoke coal plant

Monday, December 21, 2015
(Published in print: Tuesday, December 22, 2015)

Owners of the former Mount Tom coal power plant should embrace a recently completed study on reuse of the site, which closed in 2014. If they do, the Route 5 property in Holyoke could see a future that includes solar energy production and public access to the Connecticut River.

That outcome isn't pie in the sky, it's power from the sky.

It would be a rare case in which the wishes of a multinational corporation and local residents find common ground. Renewable energy generation would be an appropriate afterlife for a facility with a bad environmental record.

So far, officials with Paris-based Engie — formerly GDF Suez — have voiced support for the options presented in a reuse study commissioned by the city of Holyoke and completed by Ninigret Partners. The study incorporated suggestions from over 200 community members gleaned during eight months of meetings, surveys and workshops. It suggests three possibilities for the 128-acre site near the borders of Easthampton and Northampton.

All three options include a photovoltaic solar farm. One reduces the size of the solar array and adds a 1.5-mile biking and hiking trail and a boat launch for canoes and kayaks; another adds an anaerobic digester and greenhouse agriculture to the solar array and public recreation components.

"We're pretty much in agreement with the findings," John P. Shue, the company's vice president of operations for New England, said following the recent presentation at Holyoke City Hall. Shue said option three — with a solar array, public recreation and the anaerobic digester — is the one the company is most likely to pursue.

Good to know — and good to have this company on record supporting a green future for this dirty piece of land.

The plant opened in 1960 and was converted to burn oil in 1970, according to a document filed with the Environmental Protection Agency. It returned to burning coal in 1981 with supposedly better pollution controls. But even with upgrades, the plant earned a reputation as a significant polluter.

The Toxics Action Center bestowed one of its annual "Dirty Dozen" awards, a dubious distinction that recognizes "egregious polluters and toxic threats in New England." And the facility repeatedly ran afoul of state and federal regulators. The plant violated the Clean Water Act 100 times over several years and yet paid no fines. The EPA eventually reached a $40,814 settlement with the Mt. Tom Generating Co. in 2011, noting the company violated a federal permit over five months by discharging potentially contaminated water from construction work into the Connecticut River.

Later in 2011, after the company invested $55 million in pollution controls, state records show that the plant owners — then Mt. Tom Generating Company and GDF Suez subsidiary FirstLight Power Resources — reached an agreement with the office of the state Attorney General and the Department of Environmental Protection to make amends for "thousands" of Clean Air Act violations from 2005 to 2010. For that, the company paid a $25,000 penalty and agreed to contribute $70,000 to a program to encourage local owners of wood stoves and wood-fired boilers to meet federal emissions standards. Again, the company dodged any meaningful penalty.

In the end, the biggest financial penalty was self-imposed by a company whose crystal ball proved cloudy. Just a few years after investing tens of millions of dollars to reduce pollution, GDF Suez announced the plant would close.

That legacy of pollution remains. Following through on a reuse plan that incorporates renewable energy won't erase it.

But harnessing renewable energy through solar panels and opening public access to the Connecticut River — perhaps the Valley's greatest recreational and environmental asset — would build goodwill and serve as an example of the power of public participation.

January 20, 2016

Springfield Public Health Council
95 State Street, Room 201
Springfield, MA 01103

Dear Members of the Committee:

The American Lung Association in Massachusetts is grateful for the opportunity to speak on the health concerns we have with the proposed biomass plant. We would urge the committee to further examine potential harmful health impacts during a formal site review. The American Lung Association is the oldest voluntary health organization in the nation, and our mission is to save lives by improving lung health and preventing lung disease. To this end, we work to reduce the burden of lung disease on individuals and their families, because we believe everyone has the right to breathe healthy air.

The Lung Association has been involved in the process for many years. Back in 2009, we submitted comments to the Massachusetts Department of Environmental Protection outline our concerns with negative health impacts from biomass emissions. In the subsequent years, our resolve has only been strengthened – we do not support biomass combustion for electricity production.

The emissions from biomass include harmful particle pollution. While everyone is at risk from particle pollution, the youth, elderly, and those with pre-existing respiratory diseases like asthma, chronic obstructive pulmonary disease (COPD) are a greater risk. Massachusetts has higher asthma rates than the national average. When the Centers for Disease Control last estimated asthma prevalence among 38 states, including Massachusetts, the average for the 38 states was 9.0% while Massachusetts was 9.8%.[1] For the same year, 2008, the Massachusetts Department of Public Health estimated the rate in Springfield to be significantly higher - 16.4%.[2] These averages include many vulnerable children whose lungs are still developing.

The more we learn about air pollution, we find it is more dangerous than we previously thought and that health impacts occur at levels once thought to be "safe." In late 2013, the World Health Organization declared particle pollution to be carcinogenic. The introduction of this biomass plant has the potential to bring harmful pollution to Springfield along with acute and chronic adverse effects.

Additionally, if a site review is ordered, the impact of the diesel trucks making deliveries should be factored in. Previous estimates had over 160 diesel trucks making one way deliveries a day to keep the plant burning. Diesel emissions, and that particle pollution, adds to the emissions from the plant – producing more carcinogenic pollution in our air. No idling must be strictly adhered to.

The Lung Association urges the Public Health Committee to consider the public health impact that the emissions of the proposed plant will bring to Springfield. Thank you for your time and consideration.

Sincerely,

Casey Harvell
Director, Public Policy, American Lung Association of the Northeast

[1] http://www.cdc.gov/asthma/stateprofiles/asthma_in_ma.pdf

[2] www.mass.gov/eohhs/docs/.../asthma/burden-in-mass.doc

Caulton, Helen

From: Claudia Hurley <mandchurley@comcast.net>
Sent: Wednesday, January 27, 2016 9:08 AM
To: Caulton, Helen
Subject: Pre Biomass plant

I am a concerned citizen from Westfield. I am convinced that adding even the air permit emissions to the particular area of Springfield, combined with the added truck traffic with its added noise, dust and emissions will negatively affect the health of the citizens in the area. Such plants, if they are permitted should be constructed in less densely populated areas. I am particularly concerned that the health council has been THREATENED with a 200 million dollar law suit if they attempt to do their job. I respectfully request that you report this threat to your representatives and senators and request that this threat be directly referred to the governor's office for review by his legal advisors. The voice of the people and those who are charged with guarding their health is being thwarted by a bully private interest. Please research your right to perform this site assessment hearing. Please consider that even if Pre is allowed to build the plant using only green wood that they will apply for a more diverse fuel source once they are in business. A site assignment hearing could possibly justify a demand that the fuel source never be altered. I predict the plant would never be built with such a defined restriction. Thank you for your consideration. The economic community of Springfield needs and deserves the protections of those more able to provide it than they are. Claudia Hurley Sent from my iPhone

1/21/2015

To the Springfield Public Health Council:

This letter is similar to the one I submitted during your meeting of 1/20/2015 but amended to refine the focus on pertinent issues raised at the hearing. I am also attaching an annotated copy of PRE's October 30vv letter that I reference below.

High Risk of Burning Toxic Wood

As mentioned at the hearing, I think there is a high probability that PRE will seek to change their fuel source to the originally proposed, and more profitable, construction and demolition debris (CDD) once the plant is operational. CDD has much higher levels of contamination from lead paint and pressure treated wood. I also think that, even if PRE attempts to adhere to clean wood burning, there is a high probability that PRE will unknowingly take shipments of contaminated wood due to the design of the sampling protocol as defined in their DEP permit.

Sampling Weakness

The DEP permit states that PRE's fuel be tested periodically for lead, chromium, arsenic and mercury, the set of most common toxins found in contaminated wood and CDD. The DEP stipulates that 5 truck samples be taken each week. Out of the approximately 360 trucks per week, this constitutes testing 1.3%. This poses a potential for easily missing many truckloads of contaminated wood. This risk alone should justify a Site Assignment hearing.

There is No Air Monitoring for Toxic Emissions

The DEP's permit does not call for air monitoring for any toxins (lead, chromium, arsenic and mercury) commonly found in CDD and other contaminated wood. The only effort to establish presence of toxins in the fuel is from the scant wood chip samples. And since there is not air monitoring, there will be no record of burning a contaminated shipment.

Pressure to Switch Fuel to CDD

PRE's reason for switching fuels would be one of economic survival. Once the plant is up and running, PRE will have a far more persuasive argument to the city and state asking for the switch in order to prevent a plant closing. The evidence supporting my concern comes from PRE's own writing and news of plant closings in several states due to economic realities.

PRE's October 30, 2015 letter (attached) to the Massachusetts Department of Energy Resources, seeks state subsidies currently not available to them by asking for amended regulations that "*omit all references to energy efficiency requirements for biomass facilities*" because the current standard for operating a biomass plant "*effectively disqualifies conventional biomass from receiving any incentives.*" In other words, PRE is already asking for increased state support and would prefer not to meet efficiency standards that are good for our air.

State subsidies are very important for the life of a biomass plant. An August, 2012 article in the Worcester Business Journal, in discussion with Bob Cleaves, president of the Biomass Power Association,

writes, *"It's not illegal for a developer to build a wood biomass plant, but without RECs (Renewable Energy Credits), Cleaves said no one will. Biomass energy can't compete with fossil fuels cost-wise, so state incentives are crucial."* A January, 2016 Portland Press Herald article discusses the closing of two Maine plants due to the cost of fuel and decreasing state subsidies. The plant spokesman notes that, *"this happens with some frequency in the biomass industry when energy prices are not sufficient to cover the costs of operation and fuel supply."* The article goes on to quote a spokesperson for the loggers association lamenting that, *"expiring renewable energy subsidies in Massachusetts and Connecticut have the potential to eliminate the market for Maine biomass altogether as soon as 2017."*

Likelihood PRE Requests Switch to CDD

It is telling that PRE is willing to forge ahead when others in their industry see burning green wood chips as a dead end, and *especially* worrisome when their consultant admits that they are installing all the equipment originally specified to handle CDD as the fuel. Why would PRE spend so much more money on pollution control equipment not required for green wood?

The Public Health Council Can Protect Springfield from Contaminated Wood

I urge the Springfield Public Health Council to recognize the possibility that PRE will attempt to change their fuel source to achieve a profitable operation, and that this switch will further burden Springfield with new sources of lead, chromium and arsenic. I consider this potential risk sufficient to justify the PHC moving forward with a Site Assignment hearing, and at that hearing asking if PRE will put in writing that they will never change their fuel source. The PHC can further reduce this risk by passing a regulation that strictly limits biomass fuel burned in the city to the fuel as defined in PRE's current permit from the Department of Environmental Protection.

Thank you for your consideration of the above issues as they relate to the health and well-being of Springfield and the larger community.

Sincerely,

Stuart and Lee Ann Warner
Stop Toxic Incineration in Springfield

PALMER RENEWABLE ENERGY

October 30, 2015

Judith Judson, Commissioner
Department of Energy Resources
100 Cambridge Street
Boston, MA 02114

Dear Commissioner Judson,

We appreciate the opportunity to offer comment on existing Department of Energy Resources regulations as part of the Baker Administration's regulatory review process. We would like to call your attention to problematic regulations limiting biomass energy's inclusion in the Renewable Portfolio Standard (RPS). Specifically, we are requesting that 225 CMR 14.00 be amended to omit all references to energy efficiency requirements for biomass facilities. A red-lined version of the regulations with our suggested changes is attached here for your reference (see 225 CMR 14.05(1)(a)7.f.iii and 225 CMR 14.05(8)(c)).

The incorporation of energy efficiency standards in these regulations raises a number of concerns for us, namely that the standards are nearly impossible for electricity-only biomass facilities to meet, were calculated based on faulty assumptions, and are crushing a once-thriving green energy industry at a time when the Commonwealth should be encouraging the development of alternative energy sources. These energy efficiency standards for biomass are strictly regulatory in nature, not statutory. They do not advance the renewable energy goals of the Department or of the underlying legislation, the Green Communities Act of 2008. Massachusetts has become an outlier in how it approaches biomass, in comparison not only to other states, but also to the federal government and other nations around the world. Massachusetts' treatment of biomass fails to reflect the overwhelming consensus that biomass is a valuable green energy resource. This places the Commonwealth at a competitive disadvantage. Governor Baker's intent in initiating this regulatory review process was to identify and correct provisions, like the one in question, that needlessly harm the Massachusetts economy. We believe our proposed changes align with the Governor's vision.

Despite the regulatory climate, we at Palmer Renewable Energy believe in the promise of biomass energy production to positively impact our communities and the environment. We continue to move forward with our proposed biomass-to-power project in Springfield, an $150 million project that will create 200 construction jobs and employ approximately 50 permanent workers. The facility is projected to use 1200 tons per day of fuel of clean non-contaminated non-forest woody material to produce 38 MW of power. We would welcome a reconsideration of energy efficiency standards for biomass inclusion in the RPS as a strong

Table 1
Proposed Annual Potential Emission Rates (Tons Per Year)

Pollutant	Boiler	Lime Storage Silo	Ash Storage Silo	Wood Storage Shed	Fugitive Emissions	Facility Wide
NOx	37.9	-	-	-	-	37.9
CO	81.4	-	-	-	-	81.4
VOC	11.15	-	-	-	-	11.15
SO_2	26.8	-	-	-	-	26.8
PM[1]	33.44	0.008	0.231	0.41	0.46	34.55
PM_{10}[2]	33.44	0.008	0.231	0.17	0.092	33.94
$PM_{2.5}$[3]	33.44	0.002	0.053	0.02	0.023	33.54
HAPs	13.2	-	0.0012	-	-	13.2
NH_3	13.4	-	-	-	-	13.4

statement of the Baker administration's commitment to a truly diverse and balanced energy portfolio.

I. Current Standards

225 CMR 14.05(8)(c) requires that biomass plants meet a 40% energy efficiency minimum standard in order to be eligible for the Renewable Portfolio Standard (RPS). While combined heat and power (CHP) systems may achieve this standard, it is virtually impossible for electricity-only generating units. In other words, it effectively disqualifies conventional biomass from receiving any incentives intended to encourage the development of renewable energy sources. Even biomass facilities that comply with the fuel supply sustainability requirements are ineligible for the RPS, which is why we are asking for all energy efficiency standards to be removed. No other renewable energy source in the RPS has been encumbered with anything resembling this energy efficiency requirement.

II. Rules Based on Faulty Assumptions

The regulations lack a meaningful public health, safety, or environmental rationale for their stringency. The energy efficiency standards were born mainly out of the findings of the Manomet Center for Conservation Science's *Biomass Sustainability and Carbon Policy Study*, which was prepared for DOER in 2010. The Manomet study, however, focused narrowly on modeling carbon emissions with units using forest-harvested wood for fuel. The results of the study are simply not relevant for units that rely on forest harvestry byproducts and waste wood, as do the vast majority of facilities in New England. It is not effective public policy to make rules for an entire industry based on a study that only applies to a narrow slice of producers.

III. Massachusetts is an Outlier

With its reliance on the Manomet study, Massachusetts has been an outlier in its regulatory approach to biomass. While approximately 29 other states have RPSs that qualify biomass as a renewable fuel, none have instituted the overly stringent requirements imposed by DOER's regulations. In addition, the regulations are out of step with federal requirements. The EPA's Clean Power Plan rules, released in August 2015, clearly view biomass as a valuable resource for achieving carbon pollution reduction goals, allowing states to use biomass to meet state-specific reduction requirements. EPA greenhouse gas reduction policy discounts emissions from biomass, with the reasoning that biomass is likely to have minimal or no net atmospheric contributions of biogenic carbon dioxide emissions as long as the biomass is produced sustainably. The European Union has also embraced biomass as a way to diversify Europe's energy supply and create growth while lowering emissions. In fact, in 2012, biomass accounted for two-thirds of all renewable energy consumption in the E.U. Like the EPA, the E.U. considers biomass to be carbon-free.

IV. Rules Undermine Intent of Green Communities Act

Rules disqualifying biomass from the RPS are contrary to the intent of the Legislature and to common sense. The Green Communities Act of 2008 was passed to encourage the development of the Commonwealth's nascent renewable and alternative energy resource industries. "Low-emission biomass power conversion technologies" were explicitly named as a renewable electricity-generating source to be included in the RPS Class I and Class II. Energy efficiency standards are not included in the legislation, and it was nowhere contemplated by the Legislature that RPS inclusion would be limited to CHP facilities. The focus on CHP facilities is especially puzzling considering that the Green Communities Act was intended to promote renewable electricity-producing sources – not heating sources. DOER's rulemaking has had the effect of disqualifying an energy source from the RPS that was explicitly included by the Legislature.

IV. Necessity for a Diverse Energy Portfolio

The urgency to develop renewable and alternative energy resources has only grown in recent years. The Commonwealth's increasing reliance on natural gas as nuclear power and coal facilities come offline, coupled with ever-rising electricity costs, is an immense cause for concern. That is why we have been gratified by Governor Baker's call for a "combo platter" approach as the best way to both control staggering electricity costs and to meet greenhouse gas emissions goals. Massachusetts needs a truly diverse renewable energy portfolio, because wind and solar alone cannot meet our needs. Other sources like biomass will be vital to meeting the Commonwealth's goals.

We respectfully request that DOER take this regulatory review period as a chance to reevaluate the need for energy efficiency standards for biomass. While these standards may have been intended to protect our forests and control carbon emissions, in reality they achieve little but to punish a once-thriving renewable energy industry. Biomass can still play an important role in securing the Commonwealth's renewable energy future, if it is not held back by wrongheaded regulation.

We look forward to having an opportunity to meet with you to discuss in greater detail the science, data, and economic analysis behind our proposed changes. Please feel free to reach us at: 617-423-0028.

Thank you.

Sincerely,

David Callahan
President, Palmer Renewable Energy

PFPI
driven by data

40 CFR Parts 60, 62, and 78: Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations; Proposed Rule.

Docket ID: [EPA–HQ–OAR–2015–0199; FRL 9930–67–OAR]

Comments from the Partnership for Policy Integrity (PFPI) on biomass energy in the FIP

January 21, 2016

Dear EPA,

Please accept these comments on the Federal Implementation Plan for the 111(d) rulemaking. This set of comments focuses on treatment of bioenergy under the plan; we will submit comments on other aspects of the plan under separate cover.

Contents

Background – definitions of biomass

First, we want to clarify what we are talking about when we discuss biomass energy, and offer a comment on EPA's definition of "qualified" biomass.

Our definition of biomass

All of our responses below refer to burning solid biomass to produce electricity. Our comments do not pertain to combustion of gasses collected from landfills or anaerobic digestion. We believe EPA should stop classifying this technology and fuel type as "biomass," as it is no more like solid biomass than natural gas is like coal. Lumping solid biomass combustion and gaseous biomass in one category is unnecessarily confusing .

EPA's definition of "qualified biomass"

EPA states, *"Qualified biomass means a biomass feedstock that is demonstrated as a method to control increases of CO2 levels in the atmosphere."*

There are at least three problems with this definition. First, it is only thinly based in reality. Burning any biomass in a power plant emits more CO_2 at time-zero than burning fossil fuels, thus any claim that biomass "reduces" emissions or "controls" accumulation of CO_2 in the atmosphere is based on carbon accounting over some time period, during which these emissions are assumed to be offset by new plant growth or zeroed out by their ultimate equivalence with emissions from an alternate fate.

Biomass power plants emit more CO_2 per MWh than coal or gas facilities

CO_2 Emission Rates From Modern Power Plants	Lb CO_2/MMBtu	Facility efficiency	MMBtu /MWh	Lb CO_2/MWh	Biomass v. Tech
New gas combined cycle[a]	117	51%	6.7	786	385%
New subcritical coal steam turbine[b]	210	39%	8.7	1,839	165%
U.S. coal fleet avg, 2013[c]	210	33%	10.5	2,198	138%
New biomass steam turbine[d]	213	24%	14.2	3,028	

References:

CO_2 per MMBtu

a, b, c: from EIA at http://www.eia.gov/environment/emissions/co2_vol_mass.cfm. Value for coal is for "all types." Different types of coal emit slightly more or less.

d: Assumes HHV of 8,600 MMBtu/lb for bone dry wood (Biomass Energy Data Book v. 4; Oak Ridge National Laboratory, 2011. http://cta.ornl.gov/bedb;) and that wood is 50% carbon.

Efficiency

a: DOE National Energy Technology Laboratory: Natural Gas Combined Cycle Plant F-Class (http://www.netl.doe.gov/KMD/cds/disk50/NGCC%20Plant%20Case_FClass_051607.pdf)

b: International Energy Agency. Power Generation from Coal: Measuring and Reporting Efficiency Performance and CO_2 Emissions. https://www.iea.org/clab/papers/power_generation_from_coal.pdf

c. EIA data show the averaged efficiency for the U.S. coal fleet in 2013 was 32.6% (http://www.eia.gov/electricity/annual/html/epa_08_01.html)

d: ORNL's Biomass Energy Data Book (http://cta.ornl.gov/bedb; page 83) states that actual efficiencies for biomass steam turbines are "in the low 20's"; PFPI's review of a number of air permits for recently proposed biopower plants reveals a common assumption of 24% efficiency.

Second, there is nothing in the 111(d) rule that appears to give EPA the authority to do anything but account for the carbon dioxide coming out of the smokestacks of regulated units at time-zero. Therefore, the definition of qualified biomass, which assumes net carbon accounting over time as emissions are offset, requires an authority EPA does not appear to have under this rule. Finally, EPA has not yet defined categories of "qualified" biomass and is still seeking comment on this very important aspect of the rule. Presuming EPA does publish some categories of "qualified" biomass in the final rule, when will the public have the opportunity to comment?

EPA has asked for comment on a number of questions regarding treatment of biomass as an eligible compliance measure in the FIP. The FIP makes it clear that eligibility would have wide application, stating *"If biomass is included as an eligible measure, we are taking comment on an option for biomass treatment under the rate-based federal plan, which would also apply to eligible generation under the mass-based plan allowance set-aside and to the calculation of covered emissions for affected EGUs that are co-firing biomass."*[1]

Biomass should not be an eligible measure in any of these instances. Below, we respond to EPA's specific calls for comment and provide more discussion.

Should biomass get ERCS?
"The agency requests comment on the inclusion of other emission reduction measures as eligible for ERC issuance under the rate-based federal plan. This may include other RE technologies not included above, such as distributed RE generation and various types of biomass."[2]

No, Biomass should not be eligible to receive ERCs or allowances.

Should EPA specify a list of pre-approved qualified fuels?
"This option offered for comment is to specify a list of pre-approved qualified biomass fuels." For example, the EPA could recognize the CO2 and climate policy benefits of waste-derived feedstocks (e.g., landfill gas) and certain industrial byproduct feedstocks (e.g., black liquor or other forestry and agricultural industrial byproducts with no alternative markets). As another example, the EPA could also recognize biomass feedstocks from sustainably managed forests lands, provided that these feedstocks meet certain requirements such as demonstration that the feedstock is sourced from sustainably managed lands (for example, feedstocks from forest lands with sustainable practices like improved management to increase carbon sequestration benefits) and therefore helps control increases of CO2 in the atmosphere.[3]

No, for reasons that we discuss below, EPA should not specify a list of pre-approved qualified biomass fuels. EPA should particularly give a wide berth to any implication that "sustainably managed" lands can produce qualified biomass. From a practical standpoint, in addition to "sustainability" having almost nothing to do with "carbon neutrality," there is hardly a forestry

[1] FIP, p. 64,995/3
[2] FIP, p. 64,994/3
[3] FIP, p. 64,995/3

operation in the country where someone won't claim it's "sustainably" harvested, including the massive clearcuts currently occurring in bottomland hardwood forests for wood pellet manufacture. For instance, Enviva, the largest wood pellet manufacturer in the country, states in its "FAQ":

Do you source wood from forests that have been clear cut?
While some images of clear-cut forests can be unsettling, this practice is entirely consistent with, and in many cases essential to, sustainable forest management[4]

The picture above shows a clearcut forest where trees were harvested and sold to Enviva. The original caption from the Washington Post reads, *"Little remains but stumps and puddles in what was once a bottomland hardwood forest on the banks of the Roanoke River in northeastern North Carolina. Many of the trees were turned into wood pellets for burning in power plants in Europe. Others were sold for high-value uses such as furniture."*[5]

"Qualified" biomass: offsets by another name
EPA's statement that *"feedstocks from forest lands with sustainable practices like improved management to increase carbon sequestration benefits* could help *"control increases of CO2 in the atmosphere"* is basically an endorsement of carbon offsets, which the agency has made clear elsewhere are not allowed as mitigation measures under 111(d). Beyond the fact that EPA's legal jurisdiction under 111(d) extends to smokestack emissions, not the concentration of CO_2 in the atmosphere, the potential endorsement of "sustainably" harvested biomass directly contradicts the CPP's prohibition on carbon offsets as mitigation.

---

[4] http://www.envivabiomass.com/faq-forests-fiber-sourcing/#clear; accessed January 21, 2016

[5] Joby Warrick, The Washington Post, June 2, 2015. https://www.washingtonpost.com/national/health-science/how-europes-climate-policies-have-led-to-more-trees-cut-down-in-the-us/2015/06/01/ab1a2d9e-060e-11e5-bc72-f3e16bf50bb6_story.html

This is spelled out most clearly in the Clean Power Plan:

Measures that reduce CO2 emissions outside the electric power sector.
Measures that reduce CO2 emissions outside the electric power sector may not be counted toward meeting a CO2 emission performance level for affected EGUs or a state CO2 goal, under either a rate-based or mass-based approach, because all of the emission reduction measures included in the EPA's determination of the BSER reduce CO2 emissions from affected EGUs. Examples of measures that may not be counted toward meeting a CO2 emission performance level for affected EGUs or a state CO2 goal include GHG offset projects representing emission reductions that occur in the forestry and agriculture sectors, direct air capture, and crediting of CO2 emission reductions that occur in the transportation sector as a result of vehicle electrification.[6]

The idea that bioenergy emissions from "sustainably harvested" fuels can be treated as zero is based on the idea that forest management and regrowth will ensure uptake of atmospheric CO_2 at least equivalent to that emitted when the fuel was burned, thus offsetting the emissions. The rule makes it clear, however, that such out-of-sector mitigation may not be counted toward meeting a performance level at an EGU or for a state CO_2 goal. Similarly, burning biomass and discounting the emissions does nothing to reduce emissions at affected EGUs, and should be disqualified as a mitigation measure.

Should biomass CO_2 be counted when biomass is co-fired with coal?
As EPA knows and has itself recognized,[7] co-firing biomass with coal erodes facility efficiency. This undermines Building Block 1 of the CPP, which is to *increase* facility efficiency. Given that the rate-based and mass-based targets were developed for states assuming deployment of the various building blocks, the assumption that coal plants need to increase – not decrease – efficiency is baked into the rule.

Fortunately, as the FIP is currently written, coal plants are required to hold allowances for all the CO_2 they emit, including biogenic CO_2, even if biomass is approved as an eligible measure. (We assume this rather confusing situation results from EPA envisioning the possibility of allowing standalone wood-burning plants to be eligible as compliance, even if co-fired biomass is not.) We support the requirement for EGUs to hold allowances for all their emissions, both fossil-fuel and biomass-derived.

EPA also requests comment on an approach where *"for purposes of compliance with the proposed mass-based federal plan trading program, the affected EGU would need to hold allowances equal to its emissions less the emissions attributed to the co-fired qualified biomass; such an approach would reduce the number of allowances the affected EGU would need to hold to demonstrate compliance."*[8]

---

[6] CPP, p. 64,903/3
[7] U.S. Environmental Protection Agency. Documentation for EPA Base Case v.5.13 Using the Integrated Planning Model. Page 5-9.
[8] FIP, p. 65,012/3

We don't believe such an approach would be legal. There is nothing in the 111(d) rule that permits EPA to simply not count some portion of a facility's CO_2 emissions. Further, if EPA does move forward with treating emissions of biomass as having zero CO_2, EPA will be in a position of having to explain to the public that despite the urgency attached to addressing climate change and reducing coal plant emissions, the agency is signing off on coal plants *increasing* their emissions (as a way of decreasing them). Besides being nonsensical, such an approach undermines all other efforts to reduce emissions immediately, both philosophically and in practice.

EPA asks, Should biomass get set-asides?
EPA requests comment on the *"appropriateness of the biomass treatment requirements offered for comment in the context of a mass-based set aside."*[9]

Renewable energy technologies that are considered eligible for ERCs under the rate-based federal plan and the model rule are eligible to receive set-aside allowances under a mass-based federal plan. Since as written, the FIP does not include biomass as an ERC-eligible technology, the default is that biomass would also not be eligible for set-aside allowances. EPA should stay the course and not grant ERCs or set-asides to biomass, for all the obvious reasons. Again, as it is the case for co-firing, it will undermine efforts to reduce emissions across the board if EPA is in the position of defending granting renewable set-asides to a technology that emits *more* carbon than fossil fuels, when such allowances are supposed to represent tons of *avoided* carbon emissions from fossil-fired plants.

The set-aside program is intended to prevent leakage under a mass-based rule to new natural gas plants, which are not technically included under a cap set by 111(d) for existing EGUs. The problem of leakage is apparently serious enough for EPA to construct the set-aside program as mitigation, but EPA does not appear to have considered the potential for leakage to biomass burning plants, which also are not covered units under 111(d). It seems that under a mass-based rule, there is nothing that would prevent a state from running its coal plants less in order to stay under the EGU emissions cap, and then filling that generation gap with new, standalone wood-burning power plants that would increase overall power sector emissions, even as the state appeared to be complying with the rule. If EPA makes bioenergy an eligible measure under the rule, so that biomass plants can reap financial benefits from being an alternative to coal, this outcome is even more likely. Accordingly, EPA should avoid providing any additional incentive to biomass power.

This is also the case for waste-burning and CPP treatment of biogenic CO_2 from waste incinerators. The waste industry is advocating for inclusion as a compliance measure in state plans; for instance, a January 21 presentation[10] by the industry to the Pennsylvania Solid Waste Advisory Committee makes a number of claims about the climate "benefits" of waste-burning, claiming an advantage to the state in that "stack emissions are not counted against state goals":

---

[9] FIP, p. 65,023/2

[10] Role of Waste-to-Energy in the PA Clean Power Plan. Presentation to the DEP Solid Waste Advisory Committee, Commonwealth of Pennsylvania, January 21, 2016. At http://files.dep.state.pa.us/PublicParticipation/Advisory%20Committees/AdvCommPortalFiles/SWAC/WTE_Inclusion_%20in_PA_CPP.PDF

WTE in the Clean Power Plan

Treatment of WTE under the Rule:

- **WTE facilities are not considered affected electric generating units**
- **Lifecycle benefits of WTE not explicitly recognized; however, stack emissions are not counted against state goals**
- **New WTE capacity in states with rate-based plans eligible to generate emission rate credits (ERCs)**

Meanwhile, EPA's own 2012 E-GRID data show that even ignoring biogenic CO_2 and only counting emissions from non-biogenic waste combustion, waste incinerators in Pennsylvania typically have emission rates well northward of 3,000 lb/MWh -- far higher than coal plants. Providing ERCs or allowances for even just the biogenic portion of waste will incentivize more incinerators to be built, increasing "off the books" CO_2 emissions to the atmosphere, even while states claim to be meeting emission reduction targets.

EPA wants "broad comment" on the types of qualified feedstocks

"The EPA requests broad comment on the types of qualified biomass feedstocks that should be specified in the final model rule, if any. We request comment on the methods that we should specify in the final model rule for the measurement of the associated biogenic CO2 for such feedstocks, as well as what other requirements we should specify in the final model rule related to biomass. Specifically, we seek comment on the level detail provided and whether more or less detail (and what detail) should be included in the final model rule. We request comment on any other requirements that should be included in the final model rule regarding EM&V for qualified biomass."[11]

After working on this question since 2010, spending huge amounts of peoples' time with the special panel of the Science Advisory Board, it is incredible that EPA is still seeking public input on these basic questions. It almost appears the agency hasn't come up with any new arguments since 2011, when the agency justified ignoring emissions from bioenergy in PSD permitting:

> *3: Potential for Some Biomass Feedstocks To Have a de minimis Impact on Carbon Levels in the Atmosphere*
> *EPA has sufficient information at this time to conclude that at least some biomass feedstocks that may be utilized to produce energy have a negligible impact on the net carbon cycle, such as residue material (e.g., sawdust from milling operations) that would have decomposed under natural circumstances in a relatively short period of time (e.g., 10–15 years). Given this negligible impact on the carbon cycle, the gain from regulating emissions from combustion of this feedstock for bioenergy could be considered to be trivial.*[12]

---

[11] FIP, p. 64,996/1

[12] "Deferral for CO2 Emissions from Bioenergy and Other Biogenic Sources under the Prevention of Significant Deterioration (PSD) and Title V Programs," 76 Fed. Reg. 15,249 (March 21, 2011)

EPA got taken to court over that deferral, and lost, because the court concluded that though it is theoretically possible that EPA could justify an exemption for biomass emissions, the agency hadn't presented sufficient justification. Now, five years later, the agency still hasn't come up with a rationale for exempting biomass emissions, or the *"methods that we should specify in the final model rule for the measurement of the associated biogenic CO2 for such feedstocks."*[13] During that time, buoyed by the failure of EPA and EU/UK environment agencies to recognize bioenergy carbon impacts, the wood pellet export industry and the US domestic bioenergy industry have exploded, felling thousands of acres of forests annually in the name of "clean," "carbon free" energy.

How would EPA and EGUs demonstrate feedstocks meet the requirements?
It's not clear who ultimately has the responsibility for ensuring that only approved biomass would be burned. EPA indicates that both the agency and EGUs would have responsibility:

For the first step in the ERC issuance application process, the EPA proposes that RE and nuclear generation providers submit to the EPA an eligibility application for EPA approval, or its designated agent, demonstrating that the project is eligible for the issuance of credits, including an EM&V plan that meets EPA requirements. The EPA takes comment on all aspects of the proposed ERC issuance process. The EPA is also taking comment on how an ERC issuance process would apply to emission reduction measures for which we are taking comment regarding their eligibility for ERC issuance under the federal plan, including types of RE not covered by the federal plan, demand-side EE, CHP, biomass, and any other measure that could be considered eligible under the final guidelines.[14]

Also, however, EPA indicates the burden will fall on EGUs for demonstrating that biomass is acceptable:

The EPA also requests comment on options for how EGUs would demonstrate that feedstocks meet the requirements to be accepted as a pre-approved qualified biomass feedstocks. These requirements could include demonstration of certification or verification of practices that are additional to other monitoring, reporting and EM&V requirements discussed in this proposal, such as provision of sufficient credible analysis of carbon benefits, third party verification and/or certification, or a determination of the net biogenic CO2 effects related to the production, processing and use of the feedstock.[15]

Even though it's not relevant to 111(d), which is only concerned with stack emissions, EPA has here at least acknowledged that not all biomass fuels have the same carbon impacts. However, this leads to a fundamental problem for verification. Assuming EPA understands that burning a tree with a future of carbon sequestration ahead of it has one kind of carbon impact, and burning chips from branch trimming in a park has another kind of impact, how does EPA propose that EGUs, standalone biomass plants, fuel aggregators, or the agency itself be able to tell what kind of wood chips a fuel delivery van contains? They all look the same. EPA suggests that "industrial byproducts with no

[13] FIP, p. 64,996/1 and 65,005/2
[14] FIP, p. 64,999/2
[15] FIP, p. 64,996/1

alternative markets" could provide a fuel source. How does EPA propose to enforce a provision ensuring there are no alternative markets? There are many similar questions.

Industry compliance is extremely poor already – why expect it to improve?
The biomass industry has a poor record of compliance with air quality regulations and regulations restricting burning of contaminated fuels, and enforcement by state agencies and EPA itself has been extremely inconsistent. It's hard to imagine how regulations concerning "qualified" biomass under 111(d) would be enforced, given that many facilities seem to burn almost anything they want with impunity. For example:

Evergreen Community Power, Reading, Pennsylvania
Burns contaminated wood and some non-biogenic materials (plastics) in non- attainment area for EPA health standards for PM, ozone, and airborne lead; was allowed to be permitted as a "minor" to avoid Title V, even though emissions have since exceeded limits. See,
http://www.pfpi.net/wp-content/uploads/2014/04/PFPI-Biomass-is-the-New-Coal-April-2-2014.pdf

L'Anse Warden plant, Michigan
Coal-to-biomass conversion is most polluting plant in Michigan, per MWh. Burns tires and creosote- and pentachlorophenol-treated railroad ties. EPA Region V has finally launched an investigation into this plant, which pollutes the community continuously with wood dust from grinding treated wood, and soot-blowing at the plant. See,
http://www.pfpi.net/groups-say-u-p-biomass-power-plant-blankets-community-in-toxic-soot

Covanta plant in California:
Dioxin-loaded wood ash from Covanta's wood-burning power plant was ploughed into farmland as "soil amendment." The company claimed it was too expensive to test the fuel for contamination, so they closed the plant. See,
http://www.newsreview.com/chico/settlement-reached-in-popi-case/content?oid=15836324

Plainfield Renewable Energy, Connecticut
This plant burns construction and demolition debris and like the Michigan plant above, contaminates the community with blowing dust from the wood grinding operation and a continuous stink from the wood pile. The citizens affected by the plant have filed about thirty complaints with the Connecticut DEEP complaining of rancid wood odors, burning wood, contaminated dust, wood chip dumping, and other toxic nuisances. Their latest complaint to DEEP states,[16]

"The pollution coming from Plainfield Renewable Energy's facility is getting worse. The new owners are worse than the previous owners. PRE has a horrific environmental compliance history and is unquestionably the dirtiest power plant in the State of Connecticut. Neighbors of the Greenleaf plant can't open their doors or windows and are being continuously dumped on. This is an ongoing air pollution and solid waste disposal problem that is impacting the environment, health and properties of Plainfield residents and businesses."

[16] Email from Concerned Citizens of Plainfield, January 18, 2016.

Collins Pine Sawmill, Chester, California

This facility was burning contaminated materials and dumping ash in the forest, where it contaminated a local lake. A suit filed by community members alleged that the company knowingly allowed toxic discharge into drinking water sources, forested land, and surrounding areas in Plumas County. A consent decree required the company to upgrade its pollution controls and monitor wastewater released from the plant to reduce or prevent contamination in effluent discharged from its facilities. The court also ordered the requirement that Collins Pine could only burn clean cellulosic biomass. The settlement cost the facility $150,000.[17] It took hiring a private law firm to achieve this settlement, because the Cal EPA was essentially denying there was a problem for years and downplaying residents' concerns, as a Freedom of Information Act request revealed.

PFPI has reviewed close to 100 construction and operating permits for biomass plants around the country, and has been asked to help in numerous situations where operating plants were polluting communities, burning contaminated fuels, and generally making life miserable for those nearby. While our sample is obviously biased to the bad actors in the industry, what we've observed is that biomass plant operators often express a profound contempt for regulation, which is abetted by lax state regulators and EPA's general lack of oversight. As contemptuous as the industry is of air quality and fuel contamination regulations, multiply that by ten to understand their feelings about carbon accounting and the distinctions among fuels that EPA proposes for identifying "qualifying" biomass. Any idea that the bioenergy community would self-enforce to ensure it only burns "qualifying" biomass is hopelessly naïve.

NCASI's claims for potential "qualified" biomass don't hold up

EPA has consistently claimed carbon "benefits" from certain kinds of biomass fuels, but has not produced any study thus far that demonstrates those benefits. We are aware that EPA received a study from NCASI[18] claiming to show carbon benefits from burning forest industry byproducts. We wonder if EPA is relying on this study to back up their intimations that burning certain types of biomass provides a carbon benefit. The study states,

"When residuals are burned for energy, the biogenic carbon is immediately released to the atmosphere. In contrast, residuals placed into landfills degrade and release the carbon over time. In such cases, the emissions from the biomass energy system could sometimes be higher in the short term than those from the non-use system, but the emissions from the non-use system typically overtake those from the biomass energy system relatively quickly."[19]

There are at least three factors that skew this study toward concluding a fast carbon debt payoff time.

---

[17] Plumas County News. Collins Pine Company Settles Lawsuit. December 9, 2015. At http://www.plumasnews.com/story/2015/12/09/news/collins-pine-company-settles-lawsuit/560.html.

[18] National Council for Air and Stream Improvement (NCASI), 2014. Greenhouse gas and fossil fuel reduction benefits of using biomass manufacturing residuals for energy production in forest products facilities. Technical Bulletin No. 1016. October, 2013, Revised August 2014. Research Triangle Park, N.C.

[19] NCASI study, p. iii

1. The counterfactual in the study (the alternate fate against which biomass combustion emissions is compared) is for at least some scenarios landfilling with 50% of gas being converted to methane, and in *all* such cases, the scenarios assume zero methane recovery,[20] meaning the climate forcing potential of the alternate fate is about as high as it can be. This makes burning biomass for energy "look good" in comparison, particularly given the other assumptions made.

2. The systems assessed consisted of thermal-only systems or combined heat and power systems – *not* the low-efficiency standalone electric-only biomass power plants that constitute many of the new facilities being built today. The study states, *"Two possible options for producing energy from biomass residuals were considered: heat and combined heat and power. This means that an equivalent system needed to be studied regarding fossil fuels. For cases where the biomass energy system included heat production at the forest products facility, it was assumed that in the fossil fuel-based system an equivalent quantity of heat would be produced at the facility using either coal (A) or natural gas (B)"*[21] This matters because when comparing a biomass system and a fossil fuel system, there is a smaller proportional difference in boiler efficiency, and therefore a smaller proportional difference in net emissions per unit useful energy, when thermal energy is assumed to be captured and used, than when it is not. Thus, for an analysis such as this one that assumes full utilization of thermal energy, subtracting out the fossil fuel emissions that are assumed to be displaced by biomass "wipes out" a larger proportion of the biomass carbon debt than when the analysis is conducted for an electricity-only scenario.

3. The fastest payoff times in the study include the scenarios where fossil fuel displacement was included. The fuel that is being displaced is mostly coal: *"natural gas and coal are the main fossil fuels used by the US forest products industry. Therefore, in the typical scenario, only those two were considered in the ratio used by the industry. It was hence assumed that 57% of the steam produced from biomass would displace heat from natural gas and 43% would displace heat from coal."*[22] Subtracting out emissions from coal maximizes the displacement effect and minimizes calculated bioenergy emissions.

Even with these assumptions, the NCASI study found that the "break-even" time (that is, the time when emissions from the alternative fate for residuals, which is usually decomposition, are equivalent to emissions from combustion for energy) is **19.5 years for "woody mill residuals" using their model, and 77 years using IPCC 100-year global warming potentials.** This analysis did not account for avoided emissions from fossil fuels – if that were included, the break-even time would be shorter. However, if the displaced fossil fuel were gas, and the emissions were assumed to come from a standalone electricity generating plant, subtracting out the avoided fossil fuel emissions would not significantly reduce the long time period modeled.

Thus, if EPA is relying on the NCASI study as support for the idea that emissions from combustion of mill residuals can safely be ignored, this conclusion is not warranted.

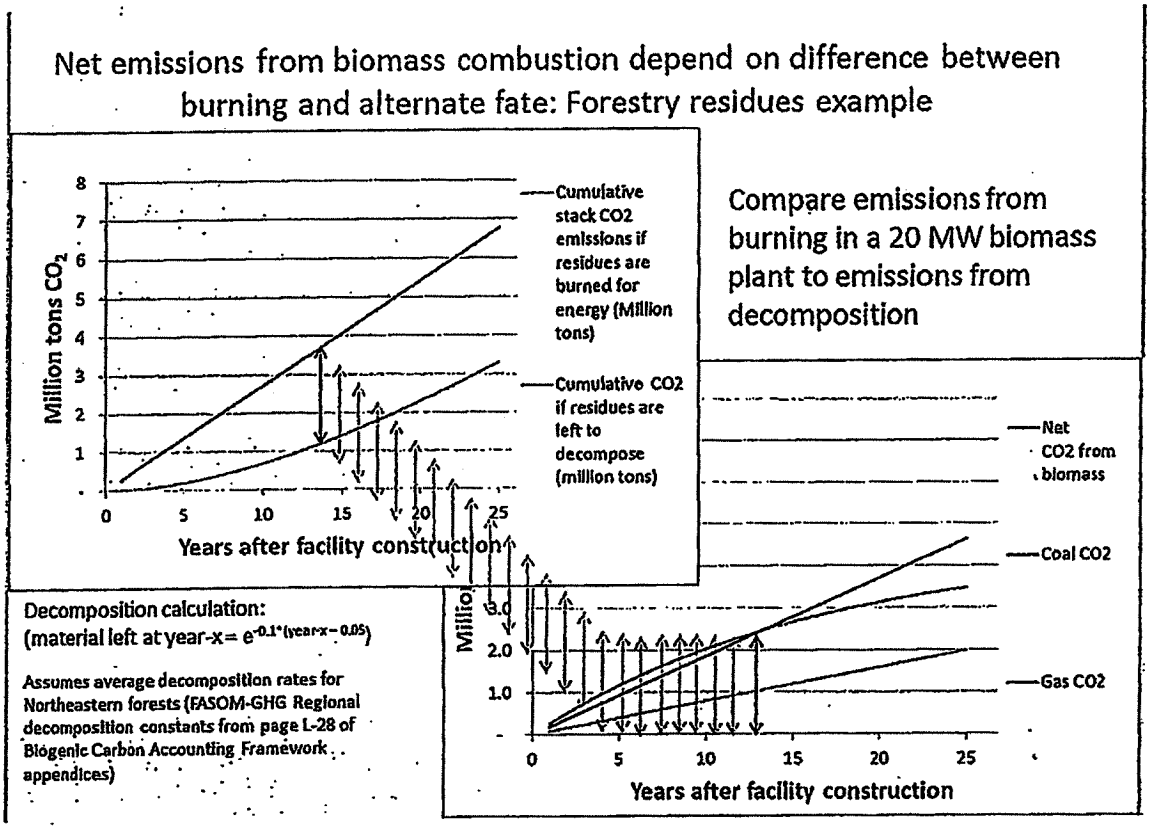
---

[20] NCASI study, page 32
[21] NCASI study, page 26
[22] NCASI study, page 35

EPA should stop promoting burning waste biomass

EPA's claims in the FIP about how bioenergy is "recognized" around the country border on misleading:

Many states have already recognized the importance of waste-derived feedstocks via mandatory and voluntary programs supporting such efforts. Some states have also acknowledged the potential role of certain forestry and agricultural industrial byproducts (such as black liquor) in energy production. Many states have also recognized the importance of forests and other lands for climate resilience and mitigation, and have developed a variety of sustainable forestry policies, biomass-related RE incentives and standards, and GHG accounting procedures.[23]



The *one* state that has done carbon accounting modeling, Massachusetts, found a 10+year carbon payback time relative to coal-fired electricity generation only when a requirement to burn "residues that would decompose anyway" was coupled with a rigorous energy efficiency requirement (the payback time relative to natural gas was 30+ years).[24] Modeling shows that burning "waste" in

[23] FIP, p. 64,995/2

[24] Walker, T., et al. 2013. Carbon Accounting for Woody Biomass from Massachusetts (USA) Managed Forests: A Framework for Determining the Temporal Impacts of Wood Biomass Energy on Atmospheric Greenhouse Gas Levels, Journal of Sustainable Forestry, 32:1-2, 130-158

low-efficiency plants has long payoff time relative to the CPP. Nonetheless, the idea that "forestry residues" are a "low carbon" source of fuel continues to enjoy credibility. The above graphs demonstrate that net emissions over time from forestry residues are in fact significant. Even after subtracting out the CO_2 that would be emitted "anyway" if the wood were left in the forest to decompose, net emissions from a wood-burning power plant exceed emissions from coal for 10 – 15 years, and continue to exceed emissions from a gas plant for multiple decades. Given that the Clean Power Plan calls for genuine reductions in emissions by 2030 – fifteen years from now – it's clear that burning forestry residues can't clear the bar.

EPA's claim that "many states have already recognized the importance of waste-derived feedstocks doesn't reflect the reality of the situation. More realistically, states have *not* recognized the actual impacts. For instance, take a look at biomass incentivized under Maryland's RPS, which is so clearly the product of lobbying by the pulp and paper industry (because ordinary citizens would probably appalled by these emissions and not want to subsidize this kind of pollution to compete with wind and solar). It seems to us pretty cynical to talk about the carbon and "environmental" benefits of these "waste" fuels when facing data like these[25]:

Biomass as "Clean" Energy?
EPA emissions data from biomass facilities receiving subsidies under the Maryland RPS – black liquor and waste wood

Facility	State	Type of biomass	E-GRID Emissions in 2012 NOx (tons)	SOx (tons)	CO2 (tons)	% of MD Tier I in 2012
Luke Mill	MD	Black liquor	444	2,304	763,123	2.68%
P H Glatfelter Co -Chillicothe Facility	OH	Black liquor, wood	500	2,322	919,275	1.34%
Stone Container Coshocton Mill	OH	Wood	527	125	284,967	0.88%
P H Glatfelter Spring Grove	PA	Black liquor	444	1,934	767,389	1.33%
Viking Energy of Northumberland	PA	Wood	40	6	40,938	0.72%
Covington Facility	VA	Black liquor	955	4,448	1,471,468	5.65%
International Paper Franklin Mill	VA	Black liquor	326	765	256,585	2.09%
Multitrade of Pittsylvania LP	VA	Wood	209	78	552,902	9.91%
Stone Container Hopewell Mill	VA	Black liquor, wood	1,277	2,725	1,009,669	6.61%
West Point Mill	VA	Black liquor, wood	1,046	3,078	1,429,122	4.82%
International Paper Kaukauna Mill	WI	Black liquor, wood	174	862	366,756	0.29%
			5,942	18,647	7,862,194	36.32%

Greenhouse gas emissions at some of these plants are over a million tons per year, and some of the facilities emit as much or more NOx and SOx as highly polluting coal plants. The EPA E-GRID system from which these data are taken does not report particulate matter emissions, but the National Emissions Inventory of 2008 reports the Luke Mill in Maryland as emitting over 500 tons of particulate matter in the form of $PM_{2.5}$, a shockingly high number with serious implications for air quality and health. Yet, under EPA's current reasoning concerning the "benefits" of waste fuels, the wood wastes and black liquor being burned at these facilities cold be classified as "qualified" fuels under the Clean Power Plan. Approving facilities like this so they could fill up a state's quota of CPP

[25] Data on emissions from EPA's E-GRID system; data on share of RPS from Public Service Commission of Maryland. Renewable Energy Portfolio Standard Report, With Data for Calendar Year 2012. January, 2014. Baltimore, MD.

compliance, taking the place of true zero-emissions technologies like wind and solar, would undermine CPP goals and threaten air quality and human health.

EPA should not be rattled by the threats from the bioenergy industry. Companies are going to burn true wastes, like black liquor, whether or not these materials are incentivized under the CPP, because they need to dispose of wastes and generate on-site energy. However, concluding that such materials therefore provide "carbon free" electricity is misguided. In fact, granting ERCs or allowances to a process that would happen anyway simply results in *displacing* true zero-emissions energy. Pulp and paper companies have operated just fine up to this point without the CPP, and they will continue to operate even if they don't get treated as a compliance option under the CPP. By excluding bioenergy as a compliance option under the Clean Power Plan, EPA can assure the public that everything possible has been done to ensure that renewable energy promoted by the Plan will actually reduce emissions.

Thank you for the opportunity to comment.
Mary S. Booth, PhD

I. Facility Description

PRE is proposing to construct a 35 MW (nominal net output) biomass-fired power plant to be located at 1000 Page Boulevard in Springfield, MA. The facility will consist of a complete fuel receiving and handling system, a 509 million British thermal units per hour (MMBtu/hr) water-cooled grate stoker fired boiler (stoker), associated air pollution control devices, a single steam turbine, an air cooled condenser, bottom ash and fly ash handling and storage systems, a 30 ton lime storage silo and an aboveground 14,000 gallon double walled aqueous ammonia storage tank.

The stoker boiler will burn a maximum of 432,160 tons per year and an annual average of 1,184 tons per day of wood fuel, which will consist of primarily green wood chips with natural gas as a supplemental fuel used for startups, flame stabilization and flue gas reheat for the high efficiency regenerative selective catalytic reduction (HRSCR) system. The boiler will be equipped with extensive air pollution control equipment, which will include a dry circulating fluid bed scrubber, a fabric filter and a HRSCR system.

As initially proposed, the plant was classified as a "major source" since it had the potential to emit greater than 50 tons per year of nitrogen oxides (NOx) and greater than 100 tons per year of carbon monoxide (CO). However, a supplemental revision, received on October 1, 2010, to the comprehensive plan application incorporated reductions for several air contaminant emission rates under the best available control technology review process. This changed the facility's classification to a "non-major source" since the potential to emit any regulated air pollutant will not exceed any applicable major source threshold. Therefore, the Emission Offset and Nonattainment Review requirements of 310 CMR 7.00, Appendix A will not apply since the facility will not emit greater than 50 tons per year of NOx or 50 tons per year of volatile organic compounds (VOCs).

A. Site Description

The biomass-fired power plant will be located at the 1000 Page Boulevard site in Springfield, MA that is owned by Palmer Paving Corporation. Approximately 7 acres of the existing 13 acre site will be dedicated to the Project; an existing asphalt plant will remain on site. Palmer Paving Corporation will continue its basic operations but the Project will displace an asphalt recycling operation currently located on the northern part of the site.

The site is bounded by Page Boulevard (Route 20) and a Friendly's restaurant to the south, Cadwell Drive to the east, a private roadway accessing a Western Massachusetts Electric Company (WMECO) service facility and printing company to the north, and WMECO electrical transmission lines and the Route 291/Route 20 interchange to the west.

Electricity generated from the plant will be supplied to the regional grid via an on-site or off-site switch gear and connection to the abutting 115 kV WMECO transmission lines.

B. Project Description

Wood Receiving, Processing and Storage

The facility will be equipped with wood fuel receiving, processing and storage operations. The wood fuel will be delivered to the facility by 25 ton trucks, five to six days per week, during daytime hours. Each delivery truck will be clamped to one of two truck dumpers which will elevate the front of the truck to empty the wood into a transfer bin. The bin will be covered with a roof. From the transfer bin, the wood will pass through a self clean magnet to remove any metals and will then be fed by a 175 ton per hour stock-out conveyor (stock-out conveyor #1) into a vibratory screen for classification. Small wood pieces that fall through the screen will be transferred by a series of three -

175 ton per hour conveyors (stock-out conveyor #2, stock-out conveyor #3 and stock-out conveyor #4) to the bulk storage shed. Wood that cannot pass through the screen will be diverted to a grinder which will reduce the chip size and discharge to the same conveyor system used for the screen. Once the wood has been transferred to the bulk storage shed by conveyor, it will be discharged directly onto a reversible shuttle conveyor which will be located 35 feet above the storage shed floor. The function of the shuttle conveyor is to distribute wood fuel along the 250 foot length of the shed and assist in the formation of the wood stockpile. The storage shed will be a 3-sided covered shed with an area of 30,000 square feet that will be capable of storing a 5,000 ton pile (approximately a 4.5 day supply of wood fuel). The storage shed will also protect the 30 foot high wood chip pile from weather and will minimize any possible fugitive emissions and mitigate noise. The northern side of the shed will be partially open so that a front end loader can access the wood pile to maintain the pile and to feed the wood chips into a reclaim grate and hopper which will feed a 100 ton per hour reclaim pan. From the reclaim pan, the wood chips will be transferred through a series of three - 100 ton per hour reclaim conveyors (reclaim conveyor #1, reclaim conveyor #2 and reclaim conveyor #3) which will discharge into two metering bins. The bins will contain 8-hours of fuel capacity that will be distributed via four to five pneumatic distribution boiler feeders which will feed to the boiler approximately 98,643 pounds per hour of wood chips while operating at a design heat input capacity of 509 MMBtu/hr.

The reclaiming of wood fuel from the stockpile will occur simultaneously with the wood fuel stockout operations. Hence, the shuttle conveyor will load fuel into the east side of the storage shed while the front end loader will recover fuel from the west side of the shed. It will take about three days to clear out the fuel located on the west side of the fuel shed while the east side is being filled. At the end of three days, the operation will be reversed with the front end loader working the east side of the shed and the west side being filled with wood fuel. This type of storage and reclaim operation will prevent fuel which was first delivered/processed from ending up at the bottom of the pile.

Fugitive particulate matter emissions from the wood fuel receiving, processing and storage operations will be minimized using enclosures and a water misting system. More specifically, PRE has proposed to house the screening and grinding operations in a fully enclosed building and all conveyors and transfer points will be fully enclosed from the dump transfer bin to the boiler feed metering bin. A 3-sided shed in conjunction with a permanent on-demand misting system will minimize any fugitive emissions from the wood storage pile. The permanent on-demand misting system will consist of a disc fan water mister to be installed on the head of stock-out conveyor #4 and will be used, as needed, to moisten the surface of the wood as it drops onto the pile. Water will be supplied from the plant's service water system and the water lines to the misting system will be winterized by being electrically heat traced and insulated. The 3-sided shed will also be ventilated at approximately 60,000 acfm with the exhaust stack at 51 feet above ground level.

Wood Fuel-fired Boiler

The boiler design for the PRE facility will consist of a Riley Power, or equivalent, advanced stoker-fired boiler with a maximum heat input rate of 509 million British thermal units per hour (MMBtu/hr) which will be housed in an acoustically treated building. The boiler will have combustion and over-fire air controls as well as combustion air pre-heating, an economizer, water-cooled grate and feedwater heating to maximize the thermal efficiency. It will also have a balanced draft design to eliminate out-leakage of combustion products. Green wood chips will be fired in the boiler to supply steam to a multi-stage condensing turbine generator which will generate 35 MW of electricity.

Stelzer, Alma

From:	mbooth.pfpi@gmail.com on behalf of Mary S. Booth <mbooth@pfpi.net>
Sent:	Monday, January 25, 2016 3:11 PM
To:	Stelzer, Alma
Subject:	Comments for the PHC
Attachments:	PFPI bioenergy comments on FIP 1-21-16.pdf

Hello,
As input to the PHC on the Palmer Biomass situation, I thought it might be helpful for the PHC to see input we'd provided EPA on a recent Clean Power Plan related rulemaking. As part of our comments, we submitted some information on operation of biomass plants in various places. That section of the comments is pasted below, and the full comments are attached.

Thanks very much,
Mary Booth

Industry compliance is extremely poor already – why expect it to improve?

The biomass industry has a poor record of compliance with air quality regulations and regulations restricting burning of contaminated fuels, and enforcement by state agencies and EPA itself has been extremely inconsistent. It's hard to imagine how regulations concerning "qualified" biomass under 111(d) would be enforced, given that many facilities seem to burn almost anything they want with impunity. For example:

Evergreen Community Power, Reading, Pennsylvania

Burns contaminated wood and some non-biogenic materials (plastics) in non- attainment area for EPA health standards for PM, ozone, and airborne lead; was allowed to be permitted as a "minor" to avoid Title V, even though emissions have since exceeded limits. See,

http://www.pfpi.net/wp-content/uploads/2014/04/PFPI-Biomass-is-the-New-Coal-April-2-2014.pdf

L'Anse Warden plant, Michigan

Coal-to-biomass conversion is most polluting plant in Michigan, per MWh. Burns tires and creosote- and pentachlorophenol-treated railroad ties. EPA Region V has finally launched an investigation into this plant, which pollutes the community continuously with wood dust from grinding treated wood, and soot-blowing at the plant. See,

http://www.pfpi.net/groups-say-u-p-biomass-power-plant-blankets-community-in-toxic-soot

Covanta plant in California:

Dioxin-loaded wood ash from Covanta's wood-burning power plant was ploughed into farmland as "soil amendment." The company claimed it was too expensive to test the fuel for contamination, so they closed the plant. See,

http://www.newsreview.com/chico/settlement-reached-in-popi-case/content?oid=15836324

Plainfield Renewable Energy, Connecticut

This plant burns construction and demolition debris and like the Michigan plant above, contaminates the community with blowing dust from the wood grinding operation and a continuous stink from the wood pile. The citizens affected by the plant have filed about thirty complaints with the Connecticut DEEP complaining of rancid wood odors, burning wood, contaminated dust, wood chip dumping, and other toxic nuisances. Their latest complaint to DEEP states,i[1]

"The pollution coming from Plainfield Renewable Energy's facility is getting worse. The new owners are worse than the previous owners. PRE has a horrific environmental compliance history and is unquestionably the dirtiest power plant in the State of Connecticut. Neighbors of the Greenleaf plant can't open their doors or windows and are being continuously dumped on. This is an ongoing air pollution and solid waste disposal problem that is impacting the environment, health and properties of Plainfield residents and businesses."

Collins Pine Sawmill, Chester, California

This facility was burning contaminated materials and dumping ash in the forest, where it contaminated a local lake. A suit filed by community members alleged that the company knowingly allowed toxic discharge into drinking water sources, forested land, and surrounding areas in Plumas County. A consent decree required the company to upgrade its pollution controls and monitor wastewater released from the plant to reduce or prevent contamination in effluent discharged from its facilities. The court also ordered the requirement that Collins Pine could only burn clean cellulosic biomass. The settlement cost the facility $150,000.ii[2] It took hiring a private law firm to achieve this settlement, because the Cal EPA was essentially denying there was a problem for years and downplaying residents' concerns, as a Freedom of Information Act request revealed.

PFPI has reviewed close to 100 construction and operating permits for biomass plants around the country, and has been asked to help in numerous situations where operating plants were polluting communities, burning contaminated fuels, and generally making life miserable for those nearby. While our sample is obviously biased to the bad actors in the industry, what we've observed is that biomass plant operators often express a profound contempt for regulation, which is abetted by lax state regulators and EPA's general lack of oversight. As contemptuous as the industry is of air quality and fuel contamination regulations, multiply that by ten to understand their feelings about carbon accounting and the distinctions among fuels that EPA proposes for identifying "qualifying" biomass. Any idea that the bioenergy community would self-enforce to ensure it only burns "qualifying" biomass is hopelessly naïve.

Mary S. Booth, PhD | Director, Partnership for Policy Integrity
mbooth@pfpi.net | landline: 413-253-3256 | mobile: 917-885-2573

[i][1] Email from Concerned Citizens of Plainfield, January 18, 2016.

[ii][2] Plumas County News. Collins Pine Company Settles Lawsuit. December 9, 2015. At http://www.plumasnews.com/story/2015/12/09/news/collins-pine-company-settles-lawsuit/560.html.

Stelzer, Alma

From:	Concerned Citizens of Plainfield <concernedcitizensplainfield@gmail.com>
Sent:	Tuesday, January 26, 2016 6:53 PM
To:	Stelzer, Alma; Claire B.W. Miller
Subject:	Palmer Renewable Energy Public Hearing Comments
Attachments:	PREWoodStorage.pdf

Springfield Public Health Council Members,

I would like to thank you for the opportunity to speak at the Palmer Renewable Energy Plant (Palmer Plant) public hearing that was held on January 20, 2016. In my presentation I described the numerous complaints that the Concerned Citizens of Plainfield (CCP) have filed against the Plainfield Renewable Energy Plant (Plainfield Plant) located in Plainfield, Connecticut. The Plainfield Plant started operation in January 2014. CCP has filed a total of 295 nuisance complaints against the Plainfield Plant to date.

To recap CCP has filed 4 complaints for noise, 7 complaints for black smoke from the stack, 28 complaints for dumping wood chips on the road and in neighbors yards, 62 complaints for wood dust emissions, 30 complaints for operating with dust pollution controls disabled, and 164 complaints for bad odors.

I also stated that the proposed Palmer Plant was similar in design to the Plainfield Plant indicating that Springfield could expect the same nuisance issues if the Palmer Plant were built.

In their rebuttal, a proponent of the Palmer Plant stated that he was familiar with the Plainfield Plant and that there were differences between the Plainfield and Palmer Plants that would result in fewer odor and dust emissions from the Palmer Plant. Specifically the proponent stated that the Plainfield Plant had some outside storage of wood chips and that the Palmer Plant had all its wood chips stored inside a building which would contain dust and odors.

I would like to clarify this for the Health Council. I have read through the Palmer Plant's air permit issued by Massachusetts DEP (copy of relevant section attached). The Palmer Plant air permit does state that the wood chips will be stored in the storage shed as the proponent described. However, what the proponent failed to explain to the Health Council is that the west side of the storage shed is left open to allow front end loader access and the 3 sided storage shed is also equipped with a 60,000 acfm ventilation system that will exhaust untreated storage shed air to atmosphere. Based on the storage shed dimensions, the exhaust system will provide 3 complete air changes per hour with the storage shed empty and 5 air changes per hour with the shed full of wood chips. That's one complete air exchange every 12-20 minutes. So despite the fact that the wood chips are inside the shed, the ventilation system will ensure that all the dust and odor still ends up blowing outside to the atmosphere. Yes there are some differences between the Plainfield Plant and Palmer Plant wood storage but the end result is the same. All the dust and odor will blow off site.

There are two other issues that the proponent stated during the hearing that I would like to comment on.

The proponent stated that the Palmer Plant will be constructed to incinerator specs that would allow them to burn demolition waste wood, however the Palmer Plant did not intend to burn any demolition waste wood. This should raise a red flag. Why would the Palmer Plant go to the extra expense to construct a plant capable of burning demolition waste wood if they have no intention of doing so? The answer is simple. Within two years after startup the Palmer Plant they will realize that there is insufficient green wood to keep the plant

running, (as if they don't already know that). They will then file for a permit revision to burn demolition waste wood in order to keep the plant from closing down.

When asked several times during the public hearing if there was another biomass plant in the area that the Springfield Health Council could go visit, the proponent suggested that you go visit a non-biomass fueled plant. This should raise another red flag. Clearly proponents of the Palmer Renewable Energy plant do not want the Health Council anywhere near one of these dirty biomass plants.

Thank You
Randy Stilwell
Concerned Citizens of Plainfield

MACKIE SHEA PC

COUNSELORS AT LAW

20 Park Plaza, Suite 1118, Boston, MA 02116 • p 617 266 5700 f 617 266 5237

www.lawmso.com

February 3, 2016

DELIVERED BY HAND

Gloria Wilson, Chairperson
City of Springfield Public Health Commission
1145 Main Street, Suite 208
Springfield, Massachusetts 01103

Re: Public Health Council Hearing on Palmer Renewable Energy, LLC.

Dear Chairperson Wilson:

This letter and its enclosure supplement the submittals and presentations made by Palmer Renewable Energy, LLC ("PRE") to the Public Health Council ("PHC") in connection with the public hearing held on January 20, 2016. To date, PRE has submitted four packages of materials: (1) a letter from the undersigned dated January 20, 2016 regarding the legal authority of the PHC; (2) Statement of Dale Raczynski, PE; (3) Statement of Peter Valberg, PhD; and (4) copies of flipcharts displayed by PRE at the PHC hearing. Today, PRE is submitting this letter along with a Supplemental Statement of Dale Raczynski. PRE reserves the right to submit additional materials to the PHC based upon review of submittals from others that are not currently available.[1]

THE MATERIALS FILED BY STOP DO NOT DEMONSTRATE THAT PRE WILL BE A POTENTIALLY NOISOME TRADE

The testimony and documents submitted to the PHC by Stop Toxic Incineration in Springfield ("STOP") do not demonstrate that PRE MAY pose a danger to public health or nuisance. STOP provided only one "original" document -- a statement dated January 20, 2016 prepared by Ms. Michaelanne Bewsee. That document argues that increased truck traffic will result in increased emissions and noise. As the PHC should be aware, the City engaged VHB to review the impacts of PRE's estimated truck traffic and PRE satisfied each and every recommendation/comment made by VHB. Moreover, there is nothing whatsoever unusual or

[1] PRE notes that the DHHS website on the close of business on February 2, 2016 http://www.springfield-ma.gov/hhs/index.php?id=health-news-and-events did not include any materials beyond those addressed in this letter. If additional materials are filed with the PHC, PRE reserves the right to address such materials in a supplement this response.

different about the truck traffic that will access PRE's facility from other truck traffic accessing numerous other commercial or industrial operations in Springfield. Within the City and proximate to the Site there are numerous gasoline stations, oil terminals, industrial operations, a solid waste transfer station, a chemical plant and many other heavy industrial and heavily trafficked uses. PRE's contribution to the traffic will be very minor compared to background traffic levels. The wood chips the trucks will be hauling are much less hazardous than many existing trucking operations allowed in the City without a noisome trade site assignment. PRE's commitment to provide retrofits to its own vehicles and to fund retrofits of the City's fleet contained in the host agreement and air permit goes well beyond what any other Springfield business provides and will more than fully offset the minor impacts from trucks accessing the plant.

Ms. Bewsee also raised "climate change and public health" as an issue. The PHC is fully aware that climate change is a consequence of global greenhouse gas concentrations and has no relationship to any particular emissions source. Regardless of whether or not the PRE plant is built, global greenhouse gas concentrations will either grow or abate, and climate change will either occur or not. PRE's contribution to this global phenomenon is statistically and scientifically insignificant. The PHC cannot abate global climate change by prohibiting PRE. The article submitted by Ms. Bewsee on "Capacity to Address Health Impacts of Climate Change in Massachusetts" makes no statement to the contrary, but simply evaluates the ability of Boards of Health to react to the potential health impacts of climate change.

Moreover, with regard to climate change, the USEPA Clean Power Plan has found that biomass plants like PRE that use residual wood do not contribute to greenhouse gases, but are considered carbon neutral or even beneficial from a carbon perspective. The Plan noted that wood residuals (like non-forest wood, sawdust, etc.) "...are likely to have minimal or no net atmospheric contributions of biogenic CO2 emissions, or even reduce such impacts, when compared with an alternate fate of disposal."[2] EPA greenhouse gas reduction policy discounts emissions from biomass; with the reasoning that biomass is likely to have minimal or no net atmospheric contributions of biogenic carbon dioxide emissions as long as the biomass is produced sustainably. The European Union has also embraced biomass as a way to diversify Europe's energy supply and create growth while lowering emissions. In fact, in 2012, biomass accounted for two-thirds of all renewable energy consumption in the E.U. Like the EPA, the E.U. considers biomass to be carbon-neutral.

Note that Ms. Bewsee only provided the PHC with the executive Summary of the June 2010 Manomet Biomass Sustainability and Carbon Policy Study (the "Manomet Study"). Aside from the fact that the USEPA took into account the finding of the Manomet Study when it encouraged states to use residual wood fired biomass plants to reduce greenhouse gases, Ms. Bewsee's submittal omits page 110 of the Manomet Study that specifically says that carbon emissions from use of residual wood do not have the same greenhouse gas effects as the forestry

[2] Environmental Protection Agency, 40 CFR Part 60; Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units. See http://www3.epa.gov/airquality/cpp/cpp-final-rule.pdf

derived wood fuel that Manomet studied.[3] For the PHC's information the entire Manomet Study is available at http://www.mass.gov/eea/docs/doer/renewables/biomass/manomet-biomass-report-full-hirez.pdf

Finally, Ms. Bewsee references Environmental Justice as a reason for requiring a site assignment. As discussed in my letter of January 20, the Environmental Justice Policy of the Commonwealth was written and is implemented by the Executive Office of Energy and Environmental Affairs. The Secretary of that Agency has already determined that PRE went beyond the requirements of the EJ Policy in its environmental filings. Moreover, it is worth noting that the EJ Policy that Ms. Bewsee filed with the PHC is not the current version of the Policy but a 'draft' policy that may or may not ever be adopted.

Furthermore, as Ms. Bewsee's own presenters acknowledged in response to Dr. Scavron's question, the identification of an EJ Community is based either on the non-English speaking population, the racial, or the economic makeup of the community. While there may be some correlation between health status and these criteria and many, many other criteria, such as educational attainment, smoking, access to health care services, age, etc. . . . Ms. Bewsee presents absolutely no link between the fact that the area is identified as an EJ area and any documented health impact from the PRE project or the health status of the community. While broad generalizations are often repeated about correlations, disqualifying all "EJ Communities" from development of new commercial, industrial or other activities would serve to relegate these communities to permanent underclass status and certainly could not be based upon the actual characteristics of the particular "noisome trade" or the specifics of the community.

Ms. Bewsee also filed copies of other materials that are not specific to the PRE project and therefore deserve only passing mention. The copy of Chapter 12 from the Board of Health Guidebook Ms. Bewsee filed is not relevant to the PHC's task, which deals with "Noisome Trade Site Assignment." PRE filed with the PHC the proper reference, Chapter 19 of the Health Guidebook. According to Chapter 19, of the MassDEP's Board of Health Guidebook, "[s]uch businesses include piggeries, slaughterhouses, junk yards, garbage and rubbish collection sites, and chemical plants." MassDEP BOH Guidebook, May 1997, p. 20-2. Moreover, the chapter Ms. Bewsee filed actually supports PRE's position that the PHC's authority with respect to regulating air emissions from PRE (under the guise of a Section 143 Site Assignment) is very limited. Page 12-3 of Ms. Bewsee's submittal reiterates that Board of Health regulations of air quality must be approved by the MassDEP in advance:

[3] "Thus, all bioenergy technologies—even biomass electric power compared to natural gas electric—look favorable when biomass "[residual] wood" is compared to fossil fuel alternatives."

$ Issue its own air pollution, noise, odor or noisome trade regulations as needed to address problems unique to the community. These rules may be issued under the authority of M.G.L. c. 111, s. 31 or s. 31 C. (Public hearings must be held prior to the promulation of new regulations or revisions to existing rules under the latter section. To be legally enforceable, these rules also must be submitted to DEP for approval.)

Ms. Bewsee also filed a document entitled "Powers of the PHC" comprised only of a copy of G.L. c. 111, § 150A (which by its terms applies only to solid waste facilities, which PRE is not), and excerpts from a pamphlet from the Massachusetts Associations of Health Boards ("MAHB") entitled "Duties of Local Boards of Health in Massachusetts." That document also supports PRE's position that Section 143 is limited to truly obnoxious operations such as slaughter houses wherein it states:

3. Assign location for slaughter houses or other noxious or offensive trade. M.G.L. c.111, s.143.

Moreover, the fact that Boards of Health have only very limited authority to regulate air quality, as PRE has amply demonstrated, is witnessed by the fact that the MAHB "Duties" pamphlet, does not list regulation of air quality as a "required duty" but only as an "additional power." You will note that the MAHB lists 10 such "required" duties in Sections A –J, and then lists 6 "additional" powers in a separate list A-F. Air quality is not even listed as a separate power. Instead the MAHB relegated air quality to the "miscellaneous" category at the end of 8 pages of other duties and powers. In so doing, the MAHB listed the only authority to regulate air quality as G.L. c. 111, § 31C, the statute that requires boards of health to obtain MassDEP approval before adopting any regulation. So, again, the resource relied upon by Ms. Bewsee to say that the PHC has the "duty" to regulate PRE actually says that it is not a "duty" but might be "miscellaneous" "additional" power, but only if pursued under G.L. c.111, § 31C after MassDEP approval.

PRE OBJECTS TO ANY MEMBER OF THE PHC RELYING UPON INFORMATION THAT IS NOT PART OF THE RECORD OF THE HEARING OR PROVIDED TO PRE

In the same vein, during the Hearing, Dr. Scavron made repeated references to "more recent studies" that purportedly demonstrate a link between any incremental increases in ambient PM concentrations and increasing rates of asthma prevalence. As Dr. Peter Valberg testified, PRE is not aware of such studies that consider ambient $PM_{2.5}$ levels as low as those in Springfield. PRE objects to the use by any member of the PHC of information that is not made a part of the hearing record, including studies referred to by Dr. Scavron. PRE therefore officially requests that Dr. Scavron provide it with the referenced studies so that PRE can evaluate and respond to the same. PRE objects to any PHC action until PRE is provided the studies and afforded a reasonable time to respond to same in writing.

MACKIE SHEA PC

RESPONSE TO STILLWELL COMMENTS

At the PHC hearing, Randy Stillwell of Plainfield, Connecticut summarized complaints allegedly made by residents of the Town of Plainfield regarding the Plainfield Renewable Energy construction and demolition debris combustion facility. In his Supplemental Statement, Mr. Raczynski demonstrates the fundamental differences in design and operation between the PRE plant and the Plainfield facility that will ensure that the PRE facility will not result in the same complaints. For the reasons set forth by Mr. Raczynski, the PHC should find that the evidence offered about the Plainville facility is not relevant to the PRE facility.

RESPONSE TO LEDERMAN COMMENTS

During his rebuttal comments, Jesse Lederman, suggested that the PHC should obtain an independent legal opinion on the PHC's potential liability. In response, PRE draws your attention to the legal opinion rendered to Director Caulton Harris by City Solicitor Edward Pikula. The Board should read that legal opinion for City Solicitor Pikula's view of the PHC's liability exposure for a counterpoint to the analysis set forth in the undersigned's letter of January 20, 2016.

OBJECTION TO LACK OF QUORUM

In addition to the reasons set forth previously, PRE believes that the PHC cannot proceed because it again lacked a quorum at the January 20 hearing. Not counting Director Caulton Harris, who recused herself from the PHC vote, there were only 7 members of the PHC in attendance at the Hearing. A quorum requires 8 members of the PHC. Lacking a quorum, the PHC cannot take any lawful action.

Very truly yours,

Thomas A. Mackie (TAM)

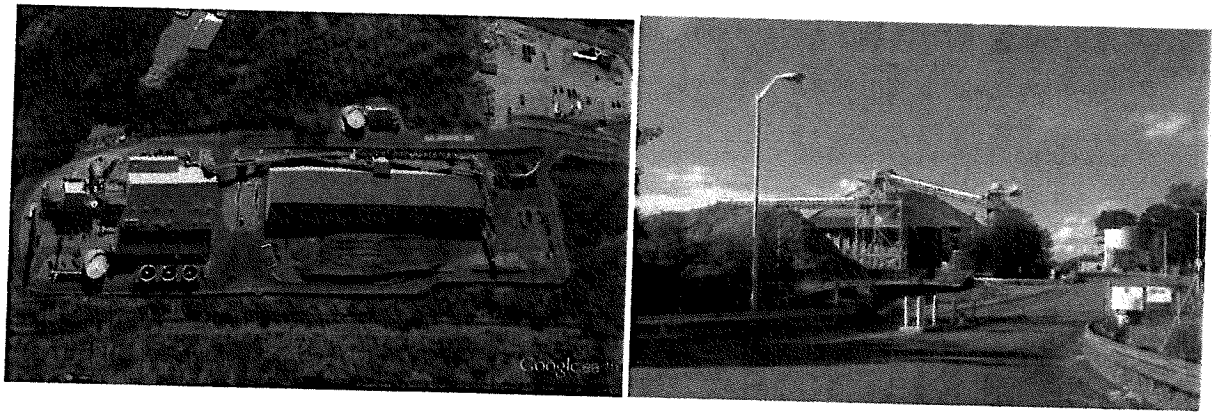
Thomas A. Mackie

cc: Edward M. Pikula, City Solicitor (By first class mail)

STATEMENT OF DALE T. RACZYNSKI, PE
Supplemental dated 2/3/2016

I, Dale T. Raczynski, P.E., hereby state as follows:

1. The Plainfield Renewable Energy plant in Plainfield, CT ("Plainfield") is a fundamentally different biomass plant than proposed for Palmer Renewable Energy, LLC ("PRE"). These differences include the fact that Plainfield uses a different type of boiler, has a different fuel mix to include construction and demolition derived wood, and has several large outdoor wood piles (see two photos below). These outdoor wood piles are uncontrolled for fugitive dust. In addition, the Plainfield facility and appears to have open sides on its indoor storage, which is another potential source for fugitive dust.



2. In contrast, PRE's green wood fueled biomass plant ("Plant") is not allowed to stockpile wood outdoors. PRE is limited to indoor storage and handling of wood fuel pursuant to Condition 19 of its June 30, 2011 Approval to Construct the Plant ("Air Plan Approval").[1] Condition 19 of PRE's Air Plan Approval states: "Pursuant to the best available control technology provision of 310 CMR 7.02(8)(a), all stockpiles of wood fuel shall be contained inside a covered three-sided storage building." Air Plan Approval, p. 57.

3. With respect to the storage building, the Air Plan Approval mandates: "The storage shed will be a 3-sided covered shed with an area of 30,000 square feet that will be capable of storing a 5,000 ton pile (approximately a 4.5 day supply of wood fuel). The storage shed will also protect the 30 foot high wood chip pile from weather and will minimize any possible fugitive emissions and mitigate noise. The northern side of the shed will be partially open so that a front end loader can access the wood pile to maintain the pile and to feed the wood chips into a reclaim grate and hopper...". Air Plan Approval, p. 11.

[1] The Air Plan Approval is available at http://www.mass.gov/eea/agencies/massdep/about/contacts/palmer-renewable-energy-llc.html.

4. The Air Plan Approval contains additional measures to mitigation fugitive dust during processing: "Fugitive particulate matter emissions from the wood fuel receiving, processing and storage operations will be minimized using enclosures and a water misting system. More specifically, PRE has proposed to house the screening and grinding operations in a fully enclosed building and all conveyors and transfer points will be fully enclosed from the dump transfer bin to the boiler feed metering bin. A 3-sided shed in conjunction with a permanent on-demand misting system will minimize any fugitive emissions from the wood storage pile. The permanent on-demand misting system will consist of a disc fan water mister to be installed on the head of stock-out conveyor #4 and will be used, as needed, to moisten the surface of the wood as it drops onto the pile. Water will be supplied from the plant's service water system and the water lines to the misting system will be winterized by being electrically heat traced and insulated. The 3-sided shed will also be ventilated at approximately 60,000 acfm [actual cubic feet per minute] with the exhaust stack at 51 feet above ground level." Air Plan Approval, p. 11.

5. The potential contribution of fugitive dust was included in the analysis of particulate matter emissions from the PRE Plant. The Air Plan Approval states: "Included in the annual potential emission calculations are the particulate matter (PM) emissions from the lime and ash storage silos, wood storage shed as well as fugitive emissions from the paved roadways." Air Plan Approval, p. 15. The Air Plan Approval's discussion of the facility's Best Available Control Technology (BACT) for Particulate Matter stated: "PRE has also proposed that the 3-sided shed will be ventilated at approximately 60,000 acfm with the exhaust stack at 51 feet above ground level. The storage shed stack will have an opacity limitation of 0% at any time." Air Plan Approval, p. 26. Thus, no visible emission of dust is allowed from the PRE Plant.

6. In Section G, of the Air Plan Approval regarding, Facility Fugitive Particulate Matter Emission BACT, the permit states: "Fugitive particulate matter emissions from the PRE facility will be negligible since all material processing and handling (screening, grinding, conveying) operations will be within enclosed areas except for the wood fuel deliveries and the northside opening of the wood fuel storage shed. The potential for dust from the storage shed will be minimized by the use of a water suppression system consisting of a disc fan water mister to be located at the head of the last stockout conveyor (stock-out conveyor #4) and will be used, as needed, to moisten the surface of the wood as it drops onto the pile. Water will be supplied from the plant's service water system and the water lines to the misting system will be winterized by being electrically heat traced and insulated. In addition, the roads will be paved and a maximum speed limit of 10 miles per hour will be posted. A vacuum-type road sweeper (or equivalent as determined by MassDEP) will be maintained on-site and utilized as necessary to keep roads clean. Therefore, MassDEP has determined that the above mentioned best management operating practices are BACT for the minimization of fugitive particulate matter from the delivery and movement of the wood chips at PRE." Air Plan Approval, p. 29.

7. PRE's air quality modeling analysis incorporated potential contributions from "the emissions from the boiler stack, PM10 and PM2.5 emissions from the lime silo, ash silo, wood storage shed and on-site fugitive particulate matter emissions." Air Plan Approval, p. 29.

8. Likewise, "In accordance with 310 CMR 7.01 and the Notice of Project Change Certificate dated November 19, 2010." the plant-wide monitoring protocols in the Air Plan Approval require PRE to "construct, operate and maintain three separate PM2.5 ambient air monitoring devices, two separate NO2 ambient air monitoring devices and a meteorological station. The exact locations of the PM2.5 and NO2 monitors shall be determined during review of the monitoring protocol. Each PM2.5 and NO2 monitor shall be operated and maintained during the stoker boiler's initial year of operation using applicable EPA methods for ambient air monitoring to measure and calculate PM2.5 24-hour average data and NO2 1-hour average data during three months in the summer as well as three months in the winter. The monitored months shall be specified in the monitoring protocol." Air Plan Approval, p. 46. Thus, any fugitive PM would be identified by the PM2.5 monitor.

9. The results of the monitoring data will be publicly available because the Air Plan Approval also requires PRE to "establish a website for public access and post on the website the three month monitoring reports of perimeter PM2.5 24-hour average data and NO2 1-hour average data, all stack test reports, semi-annual compliance reports and annual engineering reports within 7 days of the dated submittal to MassDEP." Air Plan Approval, p. 46.

10. The Air Plan Approval requires PRE to take additional control measures if the monitoring data shows that the Plant has fugitive particulate matter emissions above regulatory thresholds. The permit states "If, at any time, the biomass-fired plant, or any piece of equipment incorporated in the plant, is determined by MassDEP to be causing the emission of fugitive particulate matter in excess of the limitations specified in any applicable rule or regulation contained in 310 CMR 7.00 or in excess of the level which MassDEP considers to be the minimum attainable through the use of best available control technology, Palmer Renewable Energy, LLC shall, upon notification by MassDEP, immediately take such control measures as are necessary to reduce the air contaminant emissions to within the level deemed acceptable by MassDEP." Air Plan Approval, p. 58.

11. The Plant will have procedures in place to address the potential for odors from the wood fuel. The Air Plan Approval only permits PRE to store a 4.5 days supply of wood. PRE must following a first-in/first out approach to avoid any potential decomposition of stored wood to ensure there will not be odors as discussed in MassDEP's Response to Comments document at p. 29.[2]

[2] The Response to Comments is available at http://www.mass.gov/eea/docs/dep/public/hearings/prertc.pdf.

12. PRE also modeled contributions from mobile sources, assuming the worst case mix of heavy duty diesel vehicles as modeled in EPA's MOBILE emissions model that would have been based on a worst case of uncontrolled diesel engines and determined that the Plant will neither cause nor contribute to a violation of the NAAQS in the terrain surrounding the project site based on this worst case emissions profile. Gradient utilized the detailed information on contributions from mobile sources as part of its Health Risk Assessment. To mitigate emissions from mobile sources associated with the operation of the Plant, PRE voluntarily agreed to diesel retrofits for 25 diesel trucks owned by Palmer Paving or Northern Tree Service, and/or municipal trucks. The retrofits will include Catalyzed Diesel Particulate Filters (CDPF), which will reduce CO and VOC emissions from trucks. Unlike the stack from the Plant which effectively disperses emissions over a larger area, emissions from mobile sources can have a more direct impact in the immediate area. This mitigation effort will decrease the potential emissions contribution from mobile sources in the area around the Plant. Regardless, with or without this additional mitigation the emissions from mobile source are well within all health based guidelines.

13. The City of Springfield retained the engineering firm VHB to review the traffic studies for the facility and the proposed Air Plan Approval. VHB issued comment letters on traffic (11/3/2010) and the draft Air Plan Approval (4/27/2011). PRE responded to VHB's comment letters to the satisfaction of the City and the MassDEP.

14. With respect to air pollution, Section 1511.1 of the Springfield Zoning Ordinance ("Ordinance") establishes that the City of Springfield uses compliance with the MassDEP air pollution regulations as the standard for determining whether a use is "noxious, hazardous or offensive." Since the Plant has an Air Plan Approval from MassDEP that complies with the laws and regulations under the Massachusetts and federal Clean Air Acts, the Plant complies with the performance standards for air pollution under the Ordinance and is categorically not "noxious, hazardous or offensive " as a matter of law.

Based on the foregoing and my years of experience working on this project, it is my professional opinion that the Palmer Renewable Energy, LLC project will not result in a nuisance and will not be harmful to the inhabitants, injurious to their estates, dangerous to the public health, or attended by noisome and injurious odors.

Dale T. Raczynski, P.E.

STATEMENT OF PETER A. VALBERG, Ph.D.

I, Peter A. Valberg, Ph.D.., hereby state as follows:

1. I am a public health professional who has worked in research, teaching, and consulting for many years on the science of air quality, inhalation toxicology, and human health risk assessment. I have undergraduate and graduate degrees in Physics and Mathematics and a Master of Science in Human Physiology and Inhalation Toxicology from the Harvard School of Public Health. I am a Principal at Gradient, a health-risk environmental consulting firm near Boston. I was a faculty member at the Harvard School of Public Health, in the Department of Environmental Health, for 20 years, and I have published over 100 peer-reviewed articles on toxicology, risk assessment, and public health. I have worked extensively on health risk assessments with government agencies such as the Environmental Protection Agency and the National Academy of Sciences, as well as with the regulated community affected by the projections of such health risk assessments.

2. I oversaw Gradient's preparation of a comprehensive Health Risk Assessment ("HRA") for the Palmer Renewable Energy ("PRE") Project. The purpose of the HRA was to quantitatively compare project-specific environmental impacts against guidelines for protecting health, including sensitive populations.

3. The HRA was reviewed by both the Massachusetts Department of Public Health ("MassDPH") and the Massachusetts Department of Environmental Protection ("MassDEP"), with neither agency noting any methodology or analytic errors that would affect the conclusions of the HRA. MassDEP, in a letter dated November 9, 2010, to Secretary Ian Bowles of the Massachusetts Environmental Policy Act Office, stated: "The PRE/Gradient health risk assessment for the proposed facility provides a much more comprehensive evaluation of human health risks than what is typically included in air emission source project proposals."

4. The procedures used in health risk assessment are endorsed by a wide range of public health agencies, including MassDPH and US EPA. A health-protective characteristic of the risk assessment process is that it's designed to overpredict, rather than underpredict, the likelihood of health effects.

5. The final HRA included the following components, focused on impacts of PRE project stack air emissions:
   - a public health evaluation of criteria air pollutants;
   - an assessment of chronic inhalation non-cancer and cancer health risks from air toxics;
   - an acute (short-term) exposure evaluation for respiratory irritants;

- a screening assessment of the soil ingestion pathway for arsenic, lead, and dioxins/furans;
- for mercury (Hg) emissions, a screening assessment of impacts on the fish ingestion pathway;
- for lead (Pb) emissions, an evaluation of blood-lead impacts; and
- in addition, an assessment of potential health risks associated with PRE Project mobile and fugitive source emissions.

6. Thus, the HRA assessed the air quality impacts of both air emissions from the PRE facility stack, as well as associated vehicle exhaust and fugitive dust emission sources. The time periods evaluated considered both peak short-term exposures and maximum annual-average exposures. That is, the health risk assessment included evaluation of potential adverse health outcomes that may occur both from brief exposures and from the long-term operation of the project.

7. The comprehensive HRA demonstrated that the project's air emissions would not lead to adverse effects on the health of nearby residents, schoolchildren, or sensitive populations. In fact, the health risks for nearby Springfield residents exposed to maximum incremental stack impacts were well within acceptable public health limits.

8. The HRA addressed specific requests from MassDPH and MassDEP regarding potential health risks posed by mobile and fugitive source emissions (i.e., of exhaust emissions from heavy duty diesel trucks delivering fuel, emissions from entrained roadway dust, and emissions of particulates generated by the loading and unloading of the primary fuel as well as reagents and fly ash). The HRA demonstrated that PRE-Project mobile and fugitive sources are not expected to contribute significantly to chronic inhalation non-cancer and cancer health risks.

9. The HRA included a detailed analysis of the baseline community health status of Springfield and nearby communities that included summaries of the rates of cancer, asthma, and cardiovascular disease, plus data on blood-lead levels. This analysis of baseline community health statistics indicated that some health statistics are elevated for Springfield as compared to state average rates (e.g., pediatric asthma prevalence rates based on MassDPH school surveys, childhood lead poisoning), while other Springfield health statistics are reduced or no different from state averages (e.g., adult asthma prevalence, cancer incidence rates, cardiovascular mortality and hospitalizations). There is no evidence that any of these differences in health statistics are related to outdoor air quality in the Springfield area versus other Massachusetts locales.

10. Importantly, given that the HRA demonstrated that maximum ground-level concentrations from PRE emissions were below levels of regulatory and health-effect concern, the health risk assessment refutes any speculation that operation of PRE will affect community baseline health conditions. Springfield's public health burdens are likely related to differences in health care delivery and demographic factors (e.g., stress, socioeconomic status, neighborhood violence, lifestyle/behavioral factors), and, in the

case of pediatric asthma, to indoor air quality (e.g., mold, moisture, cigarette smoking, pests, deteriorating housing stock).

11. In addition to overseeing the HRA, I provided testimony in the adjudicatory hearing on PRE's Conditional Approval to Construct. In the adjudicatory hearing, I testified that the permit for the project should be upheld because PRE demonstrated that the project would comply with the National Ambient Air Quality Standards ("NAAQS") set by the U.S. Environmental Protection Agency ("EPA"). "Compliance with the primary NAAQS is designed to assure an absence of any anticipated adverse health effects, because the primary NAAQS are solely health-based and are not adjusted for factors such as technological feasibility, or costs and benefits. By definition, the NAAQS are intended to be protective of the public health of exposed populations, with an adequate margin of safety. By incorporation of a margin of safety, the NAAQS are set to address both uncertainties in the state of the science and the possibility of additional harms that might be identified in the future. Furthermore, the NAAQS are intended to be protective of the health of sensitive subpopulations, such as people with pre-existing disease *(e.g.,* cardiovascular diseases or asthma), children, and the elderly."

12. In contrast, the expert retained by the Petitioners in the adjudicatory hearing, Jonathan Levy, Sc.D., tried to argue that the NAAQS are not protective of public health. Dr. Levy's theoretical approach was not only inconsistent with the underlying facts regarding the Project's extremely low impact on air quality and public health, but it failed to recognize the established regulatory standards for evaluating air-quality issues by MassDEP. Dr. Levy's conclusions were not based on any substantive analyses that focused on the Project's predicted air emissions. Moreover, Dr. Levy did not explain that all outdoor ambient PM contributes only a fraction of personal exposure to airborne PM, with the majority of personal PM exposure deriving from indoor and nearby-activity sources (*e.g.*, cooking, dusting, lawn mowing, barbequing, leaf blowing, nearby traffic).

13. The Presiding Officer in the adjudicatory hearing agreed with my position that the NAAQS "are based upon a scientifically rigorous assessment of current research and they are specifically designed to protect public health, including particularly susceptible subpopulations." Ultimately, the Presiding Officer determined that "the Permit's compliance with the NAAQS and the recommended NAAQS for $PM_{2.5}$ demonstrates that the Permit complies with the regulations and the state Clean Air Act and PRE will not cause or contribute to a condition of air pollution."

14. Commissioner Kenneth Kimmel agreed with the Presiding Officer's analysis and issued a Final Decision on September 11, 2012 finding that the Approval to Construct complied with the law and regulations.

15. Given that the PRE HRA was completed in 2010, for the purpose of the Public Health Council hearing on January 20, 2016, we have recently revisited our risk calculations, confirming that the small number of changes to health-based standards and guidelines that we relied upon would not change any of the HRA conclusions.

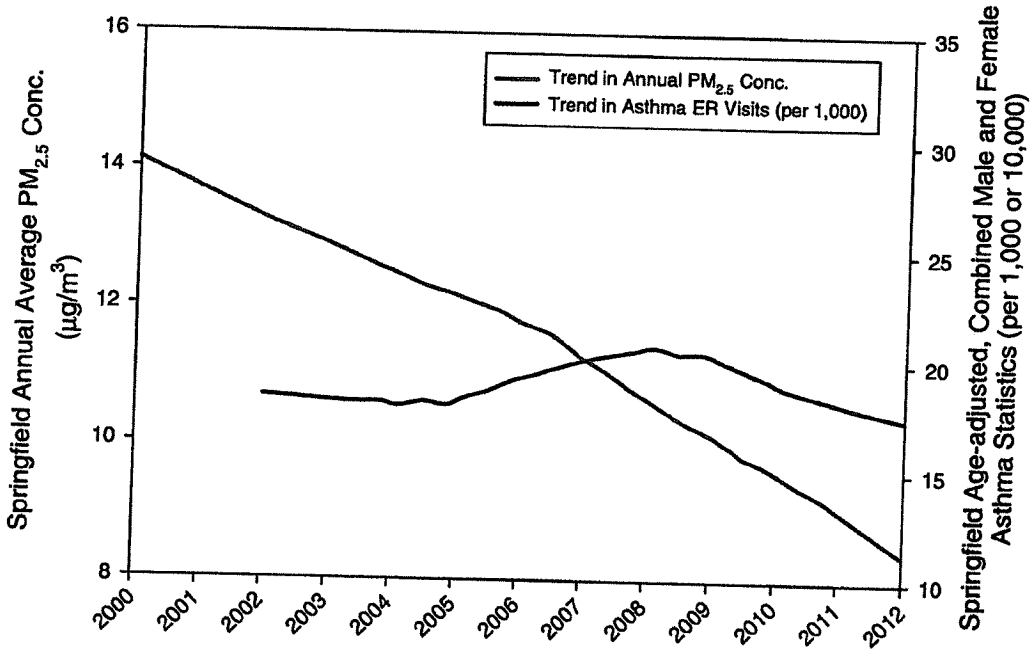
16. Since 2010, some health-based standards and guidelines have been reduced (e.g., the US EPA annual average $PM_{2.5}$ National Ambient Air Quality Standard [NAAQS]), while others have been increased (e.g., the MassDEP annual Allowable Ambient Limit [AAL] and 24-hour Threshold Effects Exposure Limit [TEL] for arsenic); however, these changes do not have significant impacts on the HRA results and conclusions, as maximum ground-level concentrations from PRE emissions remain below levels of regulatory and health-effect concern.

17. Importantly, while US EPA reduced the NAAQS for annual average $PM_{2.5}$ concentrations from 15 to 12 $\mu g/m^3$ in 2012, measured ambient $PM_{2.5}$ concentrations in Springfield have decreased by a larger fraction in recent years as compared to this reduction in the standard, such that the sum of the maximum modeled PRE annual average $PM_{2.5}$ increment and the Springfield monitored background concentration is a smaller fraction of the health-protective NAAQS than previously (approximately 63% versus 71%).

18. In fact, annual average $PM_{2.5}$ concentrations at air quality monitors across the state have decreased significantly in recent years- *i.e.*, air quality has significantly improved in Springfield and throughout the state since 2010 when the HRA was performed.

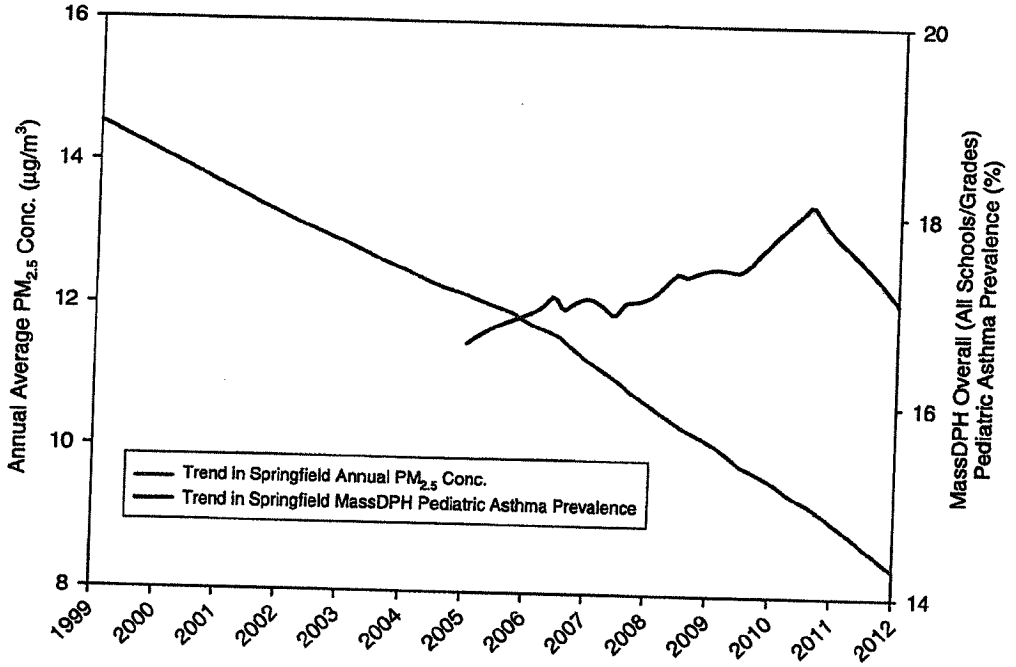
19. In contrast to the downward trend and substantial overall reductions in ambient levels of $PM_{2.5}$ in the Springfield area, community health statistics do not show similar trends that would support ambient air pollution as a determining factor behind these health statistics. For example, Figure 1 contrast the trends in annual average $PM_{2.5}$ concentrations in Springfield with the trends for MassDPH health data on asthma emergency room [ER] visits that are currently available up through 2012. As shown in the figure, the data for asthma emergency room visits show a fairly flat trend over the decade from 2002 to 2012, with little change in the data for 2002 as compared to 2012. In contrast, $PM_{2.5}$ concentrations in Springfield, as measured at the downtown Liberty Street Parking Lot monitor, have showed a steady downward trend throughout the period.

Figure 1. $PM_{2.5}$ Trends in Springfield *versus* Springfield Trends in Emergency Room (ER) Visits (annual rates)



20. Figure 2 below plots time trends in MassDPH school survey data on pediatric asthma prevalence rates, which show Springfield pediatric asthma statistics remain elevated compared to state average rates, as reported previously in the HRA. Similar to Figure 1 above, Figure 2 contrasts the trends in overall pediatric asthma prevalence rates across schools and grades (ages 5 through 14) in Springfield with the significant reductions in ambient $PM_{2.5}$ levels in Springfield. Figure 2 shows no decline in pediatric asthma prevalence rates despite the consistent downward trend in ambient $PM_{2.5}$ levels in Springfield. More generally, ambient air pollutant emissions and concentrations in the United States have decreased significantly over the past several decades while the prevalence of asthma has increased, consistent with the conclusion that factors other than exposure to outdoor air pollutants are the important risk factors underlying the trends in increased asthma prevalence.

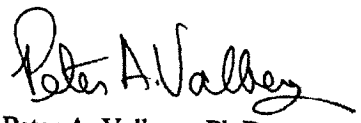
Figure 2. $PM_{2.5}$ Trends in Springfield *versus* Springfield Trends in Pediatric Asthma Prevalence Rates from MassDPH Surveys of School Children



In summary, in 2010 Gradient conducted a comprehensive health risk assessment for the PRE Project that demonstrated that maximum predicted levels of specific substances associated with PRE Project air emissions are not expected to contribute to adverse health effects among nearby populations. The findings and conclusions of the HRA remain unchanged in 2016, despite a few changes to health-based standards and guidelines and updates to community health statistics for Springfield. Regarding $PM_{2.5}$, which has been singled out as a particular public health concern related to the PRE Project emissions, it is important to recognize that one entire year of exposure of the nearby community to PRE Project incremental $PM_{2.5}$ concentrations yields an inhaled dose less than typical exposures repeatedly received from many everyday indoor and outdoor activities such as cooking, yard work, or driving in a car. That is, breathing in $PM_{2.5}$ at 0.015 $\mu g/m^3$ (the community-wide [within 5-km of the PRE Project] $PM_{2.5}$ impact attributable to PRE stack emissions) for a whole year is an inhaled dose equivalent to –

- <5 minutes a week driving in a car on an urban freeway [1]
- about 3 minutes a week of cooking in the home [2]
- <10 minutes mowing the lawn [3]
- 3 visits to indoor food courts (assuming a ½ hour duration) [4]
- about 2 hours breathing air inside a home where someone smokes [5]
- about 1 day inside a house with a clean-burning woodstove [6]
- about 6 hours inside a house with a traditional woodstove [7]
- about 5 minutes a week burning candles in the home [8]

Based on the foregoing and my understanding from working on this project, it is my professional opinion that air quality impacts of the Palmer Renewable Energy, LLC project cannot be expected to result in a nuisance or be harmful to the inhabitants, injurious to their estates, dangerous to the public health, or attended by noisome and injurious odors.



Peter A. Valberg, Ph.D.

Endnote Reference Material for $PM_{2.5}$ from Everyday Activities

(1) Based on mean in-vehicle concentration of 48 $\mu g/m^3$ for measurements on two LA freeways. (Source: Zhu, Y; Fung, DC; Kennedy, N; Hinds, WC; Eiguren-Fernandez, A. 2008. "Measurements of ultrafine particles and other vehicular pollutants inside a mobile exposure system on Los Angeles freeways." *J Air Waste Manag Assoc.* 58(3):424-34.)

(2) Based on average whole-house concentration of 50 $\mu g/m^3$ attributed to cooking activities with a gas stove and/or gas oven. (Source: Wallace, LA; Emmerich, SJ; Howard-Reed, C. 2004. "Source strengths of ultrafine and fine particles due to cooking with a gas stove." *Environ Sci Technol.* 38(8):2304-11.)

(3) Based on average $PM_{2.5}$ concentration of 936 $\mu g/m^3$ measured during eight test periods with mowing with a gas-powered lawnmower. (Source: Baldauf, R; Fortune, C; *et al.* 2006. "Air contaminant exposures during the operation of lawn and garden equipment." *J. Expo. Sci. Environ. Epidemiol.* 16:362-370.)

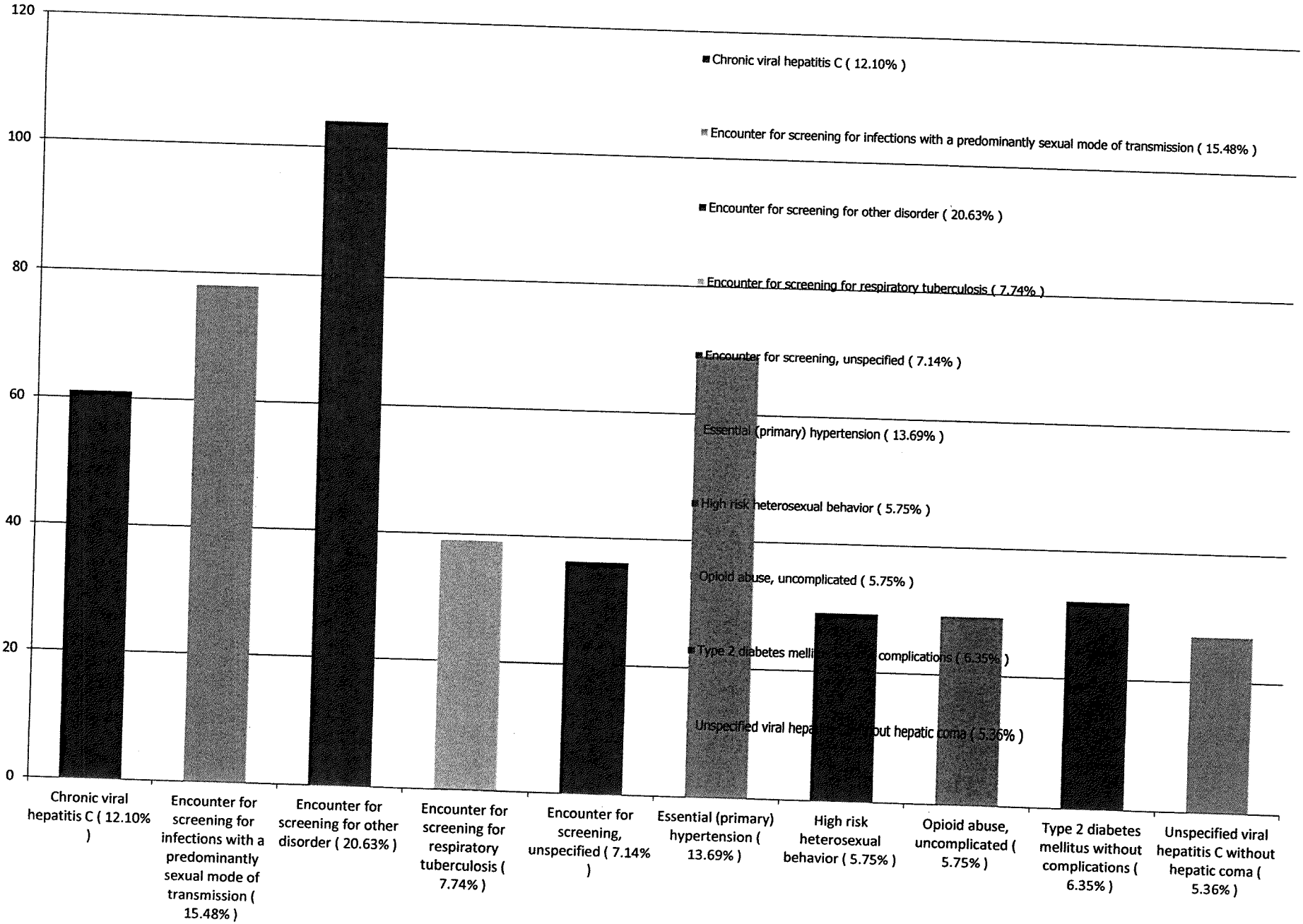
(4) Based on mean reported concentration of 200 $\mu g/m^3$ for measurements in Boston-area food courts, divided by 2.5 to account for high bias of DustTrak instrument. (Source: Levy, JI; Dumyahn, T; Spengler, JD. 2002. "Particulate matter and polycyclic aromatic hydrocarbon concentrations in indoor and outdoor microenvironments in Boston, Massachusetts." *J. Expo. Anal. Environ. Epidemiol.* 12(2):104-114.)

(5) Based on mean $PM_{2.5}$ concentration reported for distal areas in smoking homes. (Source: Van Deusen, A; Hyland, A; Travers, MJ; Wang, C; Higbee, C; King, BA; Alford, T; Cummings, KM. 2009. "Secondhand smoke and particulate matter exposure in the home." *Nicotine Tob Res.* 11(6):635-41.) ["In smoking homes, the mean $PM_{2.5}$ level for the primary smoking areas was statistically significantly higher than that for distal areas (84 and 63 $\mu g/m^3$, respectively)."]

(6) Based on average concentration of 15 $\mu g/m^3$ reported for measurements in 16 Montana homes following change-out to US EPA-certified woodstoves, divided by 2.5 to account for high bias of DustTrak instrument. (Source: Ward, T; Noonan, C. 2008. "Results of a residential indoor $PM_{2.5}$ sampling program before and after a woodstove change out." *Indoor Air* 18(5):408-15.)

(7) Based on average concentration of 51 $\mu g/m^3$ reported for measurements in 16 Montana homes prior to change-out to US EPA-certified woodstoves, divided by 2.5 to account for high bias of DustTrak instrument. (Source: Ward, T; Noonan, C. 2008. "Results of a residential indoor $PM_{2.5}$ sampling program before and after a woodstove change out." *Indoor Air* 18(5):408-15.)

(8) Based on average concentration of 28 $\mu g/m^3$ measured during candle-burning events. (Source: Long, CM; Suh, HH; Koutrakis, P. 2000. "Characterization of indoor particle sources using continuous mass and size monitors." *J. Air Waste Manage. Assoc.* 50:1236-1250.)


120
100
80
60
40
20
0
Chronic viral hepatitis C (12.10%)
Encounter for screening for infections with a predominantly sexual mode of transmission (15.48%)
Encounter for screening for other disorder (20.63%)
Encounter for screening for respiratory tuberculosis (7.74%)
Encounter for screening, unspecified (7.14%)
Essential (primary) hypertension (13.69%)
High risk heterosexual behavior (5.75%)
Opioid abuse, uncomplicated (5.75%)
Type 2 diabetes melli complications (6.35%)
Unspecified viral hepa out hepatic coma (5.36%)
Chronic viral hepatitis C (12.10%)
Encounter for screening for infections with a predominantly sexual mode of transmission (15.48%)
Encounter for screening for other disorder (20.63%)
Encounter for screening for respiratory tuberculosis (7.74%)
Encounter for screening, unspecified (7.14%)
Essential (primary) hypertension (13.69%)
High risk heterosexual behavior (5.75%)
Opioid abuse, uncomplicated (5.75%)
Type 2 diabetes mellitus without complications (6.35%)
Unspecified viral hepatitis C without hepatic coma (5.36%)

CHERYL SBARRA, J.D.
Senior Staff Attorney
Massachusetts Association of Health Boards
63 Shore Road, Suite 25
Winchester, Massachusetts 01890

Phone: (781) 721-0183
Facsimile: (781) 729-5620
sbarra@mahb.org

February 10, 2016

Public Health Council
City of Springfield
95 State Street, Room 201
Springfield, MA 01103

RE: **Public Health Council's legal authority to permit/deny a biomass plant after holding a site assignment hearing**

Dear Public Health Council:

It has come to the attention of the Massachusetts Association of Health Boards (MAHB) that the Public Health Council (PHC) was notified that Palmer Renewable Energy (PRE) would like to site a biomass plant in the City of Springfield. It has also come to our attention that the PHC has held a hearing in order to determine whether the PHC must conduct a site assignment to evaluate and possibly permit PRE's proposal.

MAHB is a membership organization that provides technical assistance and legal education to local boards of health throughout the Commonwealth. MAHB does not and cannot provide legal advice.

The noisome trade statute, G.L. Chapter 143, Section 143 states in relevant part that "No trade or employment which **may result in a nuisance or be harmful to the inhabitants, injurious to their estates, dangerous to the public health, or may be attended by noisome and injurious odors** shall be established in a city or town except in such location **as may be assigned by the board of health thereof after a public hearing has been held thereon** , subject to the provisions of chapter forty A and such board of health **may prohibit the exercise thereof within the limits of the city** or town or in places not so assigned, in any event." (Emphasis added).

I would respectfully suggest that a biomass plant fits within the above-described definition of noisome trade, and as such is subject to Chapter 111, Section 143. The board of health has the legal authority to hold a site assignment hearing and, after such hearing, permit, deny or set conditions on said noisome trade. I am unclear on what rationale basis a board of health or public health council in this case, would not hold such a hearing.

While a site assignment hearing on a proposed biomass plant with potentially enormous public health impacts is complicated, there are technical and legal experts available to the PHC who have experience in conducting these types of hearings. It would be prudent for the PHC to consult with

such experts and this is common practice in other municipalities addressing these types of site requests.

Thank you for your attention to this matter; and if you have any questions or need any additional information, please feel free to contact me.

Very truly yours,

Cheryl Sbarra

3/12/16

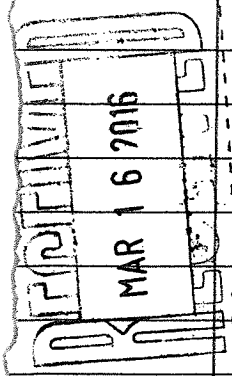
To Helen Calton HARRIS

I'm writing on behalf of my family. We are opposed to the Bio mass plant being operated at the Palmer Paving Company in Springfield.

Living on 58 Watling Street Springfield same area Palmer Paving Company is. The cancer causing products That would be put into the air by Palmer Paving Company would put my family and Springfield at Risk.

I have A child with Asthma her Risk of Asthma Related incident would also increase tremendosly. God forbid

We feel that allowing the Bio mass plant at the Palmer Paving Company in Springfield is not only IRResponsible of The Palmer Paving Company. But it would be IRResponsible by the City of Springfield to Allow its installation as well



Robert L Poth
58 Watling St
01104

3/12/16

To Helen Calton HARRIS

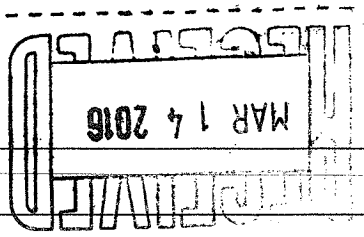
I'M WRITing because I'm against The Palmer Paving Company in Springfield. 1000 PAge Blvd / CadWell DR. BURNing Construction and demolition debRIS burning Wood waste into The air, in our area, Spfld. I Live at 60 Watling Street. Palmer Paving Company is in our Living area

I have family members 3yRS - 9yRS 16yRS - 47yRS With ASThma, They do not need to be inhaling, Wheezing and coughing at RISk of asthma attacks Thier parents RUSHing Them To The hospital. They have been doing better in The past few years. OUR family would not Want thier health to get WORSE. I'm pRaying The people of Spfld WRITe in to MRS H. Calton HaRRIS to help Put a Stop To P. P Company putting Hazardous AIR Pollutants in The air of OUR area, Spfld. NO GOOD can come of This. FOR the people of Spfld and our area Palmer Paving Company is being IRResponsible. And if Spfld allows This. Spfld Will be IRResponsible To STop Them please

RECEIVED MAR 16 2016

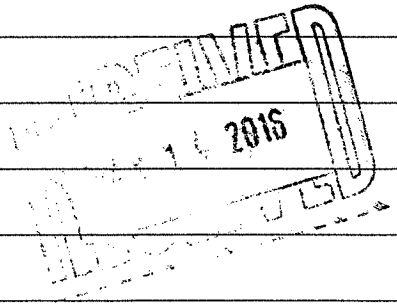
Kenneth L Mclaurin 60 WATLINGS ST 01104

Regina Griffin
50 Kenway Drive
Spfld, MA 01104



I myself oppose to the construction of a biomass incinerator. I believe this will not only effect the enviroment but effect the health of the people around the biomass. This will also affect the property values for the houses that are located near the biomass.

Regina Griffin Regina Griffin



3/12/16

To whom it may concern,

My family and I are opposed to the Biomass plant being operated at the Palmer Paving company in Springfield.

We live right down the street from the Palmer Paving company. The amount of cancer causing products this plant would emit would put us and the rest of the area at risk.

I have family members who have asthma as well, their risk of asthma related incidents would also increase tremendously.

We feel that placing the Biomass plant at the Palmer paving company in Springfield is not only irresponsible of the Palmer paving company but it would be irresponsible by the city of Springfield to allow its installation as well.

Respectfully,

Jim West

Mable West

60 Watling St, Sprfld

To Helen Calton Harris

3/12/16

My Family And I are opposed to the Bio mass plant, being operated at the Palmer Paving Company in Springfield.

We Live on Watling Street Right down the street from the Palmer Paving Company. The amount of Cancer causing products This Plant would emit would put us And the Rest of the Area At Risk.

I have Family members who have Asthma As well. thier Risk of Asthma Related incidents would Also increase tremendosly.

We feel that allowing The Bio mass plant at the Palmer paving Company in Springfield is not only iRResponSible of the Palmer Paving Company but it would be iRResponSible by the city of Springfield. To Allow its installation as Well

Respectfully

Jacqueline D. Porter (Porter)

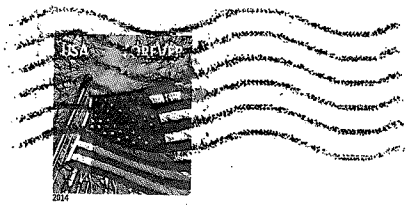
60 Watling Street

Springfield Ma 01104

RECEIVED
MAR 16 2016

James, Mabie West
60 Watling St.
Spfld, MA 01104

HARTFORD CT 061
14 MAR 2016 PM 3 L



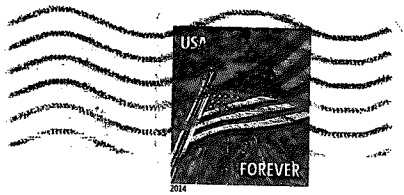
Helen Calton Harris
1145 Main Street
01105

MAR 16 2016

01103X2143

Robert Porter
58 Watling St.
Spfld, MA. 01104

HARTFORD CT 061
14 MAR 2016 PM 5 L



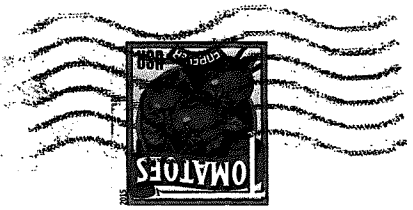
To Helen Calton Harris
1145 Main Street
01105

MAR 16 2016

01103X2143

Mrs. Regina Griffin
50 Kenway Dr.
Springfield, MA 01104-1622

HARTFORD CT 061
12 MAR 2016 PM 2 L

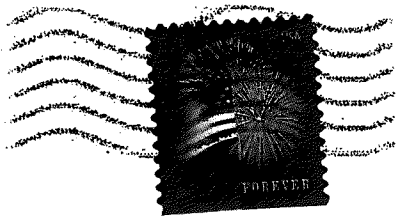


Public Health Councils
1145 Main Street
Springfield, MA 01105

MAR 14 2016

Kenneth McLaurin
60 Watling St.
Spfld, MA. 01104

HARTFORD CT 063
14 MAR 2016 PM 2 L



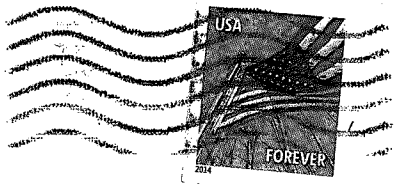
To Helen Calton Harris
1145 Main Street
01105

MAR 16 2016

01103X2143

Jacqueline D. Porter
60 Watling St
Spfld MA 01104

HARTFORD CT 061
14 MAR 2016 PM 5 L



to Helen Calton Harris
1145 Main Street
01105

MAR 16 2016

01103X2143

MACKIE SHEA PC

20 Park Plaza, Suite 1118, Boston, MA 02116 • p 617 266 5700 f 617 266 5237

www.lawmso.com

February 10, 2016

VIA FEDERAL EXPRESS

Gloria Wilson, Chairperson
City of Springfield Public Health Commission
1145 Main Street, Suite 208
Springfield, Massachusetts 01103

Re: Public Health Council Hearing on Palmer Renewable Energy, LLC.

Dear Chairperson Wilson:

On behalf of Palmer Renewable Energy, LLC ("PRE"), I enclose a Second Supplemental Statement of Dale Raczynski in response to materials filed with the PHC but not previously disclosed to PRE. I recognize that this statement is being filed after the February 3 deadline set by the PHC. However, I ask that you accept this statement now, because it is responsive to materials filed with the PHC that should have been provided to PRE and posted on the DHHS website before February 3, but were not.

Despite PRE's repeated request for all materials filed with the PHC and daily review of the DHHS website, it was not until late on February 3rd, after the filing deadline, that PRE was first provided with opposition documents that appear to have been filed with the PHC well before the original January 27 deadline. These included four letters dated January 20, another letter dated January 21, six emails dated between January 25 and 28th, and PPI's comments to EPA on the CPP dated January 21, 2015. None of these materials have ever been posted to the DHHS website. Therefore, I ask that the PHC accept the attached Second Supplemental Statement of Dale Raczynski.

Very truly yours,

Thomas A. Mackie (mpr)

Thomas A. Mackie

Enclosure

cc: Edward M. Pikula, City Solicitor *(By First Class Mail)*

STATEMENT OF DALE T. RACZYNSKI, PE
Second Supplemental dated 2/4/2016

I, Dale T. Raczynski, P.E., hereby state as follows:

1. On February 4, 2016 I was first provided with a copy of an email dated January 26, 2016 from Randy Stillwell of the Concerned Citizens of Plainfield that was filed with the Public Health Council. Although Stillwell admits that the Palmer Renewable wood storage will be different from wood storage at the Plainfield Renewable Energy plant in Plainfield, CT ("Plainfield"), he asserts that "all of the dust and odor will blow off site." This is fundamentally untrue and completely speculative. As I previously testified at the public hearing, Plainfield is a fundamentally different biomass plant than proposed for Palmer Renewable Energy, LLC ("PRE"). At Plainfield outdoor storage is subject to wind erosion. At PRE indoor storage is not subject to wind erosion. PRE will have inherently less dust emissions just due to that fact. Plainfield would be expected to generate dust from wind erosion of the outdoor piles of dry, dusty, construction and demolition wood which is typically on the order of 10% moisture as compared to 40%+ for green wood chips. Also, PRE's ventilation system will afford the ability to retrofit dust and/or odor controls if necessary in future as the dust and odor in the building will be captured and not released as fugitives. The use of a ventilation system allows for capture of any dust within the building and dispersing it so that ground level concentrations at the property line and beyond are lower than if released from the point of dust generation. In addition, if it became necessary to further control dust as evidenced by property line ambient monitors, then dust control equipment could readily be retrofitted to the ventilation system. This is contemplated by the air permit as discussed in item 10 of my Supplemental Statement dated February 3. Also note that this stack is required to have 0% opacity.

2. The other main difference on odor is time and size of wood pile. PRE's wood pile will be much smaller than Plainfield's. Having a small wood pile at PRE will mean there is not time for composting, fermenting, or odors to be generated. In comparison, the outdoor wood piles at Plainfield are much larger than will be stored at PRE and will sit there much longer than PRE, resulting in the potential for odors. If objectionable odors were found to be generated and could not be minimized by dispersion, then the same ventilation system discussed above for dust could also be retrofitted with odor controls.

Based on the foregoing and my years of experience working on this project, it is my professional opinion that the Palmer Renewable Energy, LLC project will not result in a nuisance and will not be harmful to the inhabitants, injurious to their estates, dangerous to the public health, or attended by noisome and injurious odors.

Dale T. Raczynski, P.E.

Caulton, Helen

From: Laurel R <laurelr32@gmail.com>
Sent: Wednesday, January 27, 2016 1:44 PM
To: Caulton, Helen
Subject: PRE BIOMASS

Dear Ms. Caulton- Harris

I sincerely hope you will fight against the particulate matter that all of Springfield will be exposed to for the next ' umpteen' years if PRE is allowed to burn in our neighborhood.

I was distressed to see that some peoplewere more concerned with a lawsuit against the City that the health and well being of its residents.
I personally know of several people who state that will be the last straw and they will simply move if such a plant is allowed in.
I personally went to buy a home in Chicopee several yrs ago , but a wood burning furnace was the next door neighbor (in a residential home) Therefore, I passed and got my desposit back. The sellers of the house sued their neighbor and WON! This was on Loveland Terrace in Chicopee, MA. Since then NO outdoor furnaces are allowed INCLUDING poer owned one. No one is grandfathered in to destroy the air quality of their neighbor.

PLEASE consider the elderly, the infants, those with lung problem and asthmatics and keep this place and their threats out of Springfield.

Most Sincerely,
Laurel Rancitelli
Lifelong Resident

Caulton, Helen

From: Cher <rayandclay@yahoo.com>
Sent: Wednesday, January 27, 2016 3:20 PM
To: Caulton, Helen
Subject: meeting regarding biomass

Dear Ms.Caulton-Harris ,

I am writing to express my concerns about the proposed biomass plant on Cadwell Drive .

I attended all of the hearings prior to the issuance of the permits and was shocked to learn that Springfield already had a Grade F for air quality . As I am sure you know, we are an enviornental justice community and out childhood asthma rates are several times the state average .

I find the location of this plant , in a highly congested area , where there are many dwellings just a hundred feet away , and several schools within a 3 mile radius , to be an unsuitable location .

Although the plant may have barely met the EPA standards , any additional toxins or fumes in our already-compromised air seems to be putting additional health risks onto all the residents of East Springfield and the surrounding communities as well .

I certainly hope you and the Public Health Council put the health and well-being of the citizens above all else and vote accordingly .

Thank you for your time and efforts on this matter.

Sincerely,

Cheryl A.McCollum
279 Prentice St
Springfield, MA. 01104

Caulton, Helen

From: Owen <unegbu@msn.com>
Sent: Thursday, January 28, 2016 2:33 PM
To: Caulton, Helen
Subject: Biomass concerns

Bio power has environmental risks that need to be mitigated. If not managed and monitored carefully, biomass for energy can be harvested at unsustainable rates, damage ecosystems, produce harmful air pollution and produce net global warming emissions.

Will there be independent monitoring of the air in the surrounding communities?

Will their be assessment on current environmental conditions and ensuring the current conditions will be maintained?

How will the public be informed? Monthly, Daily or Weekly?

What emergency measures will be taken to notify the community in the event of negative environmental impact?

Will you cover the all liabilities associated with biomass? Such as airborne Illness, relocation and associated expenses.

There is an inclination to believe that everything is going to be alright.

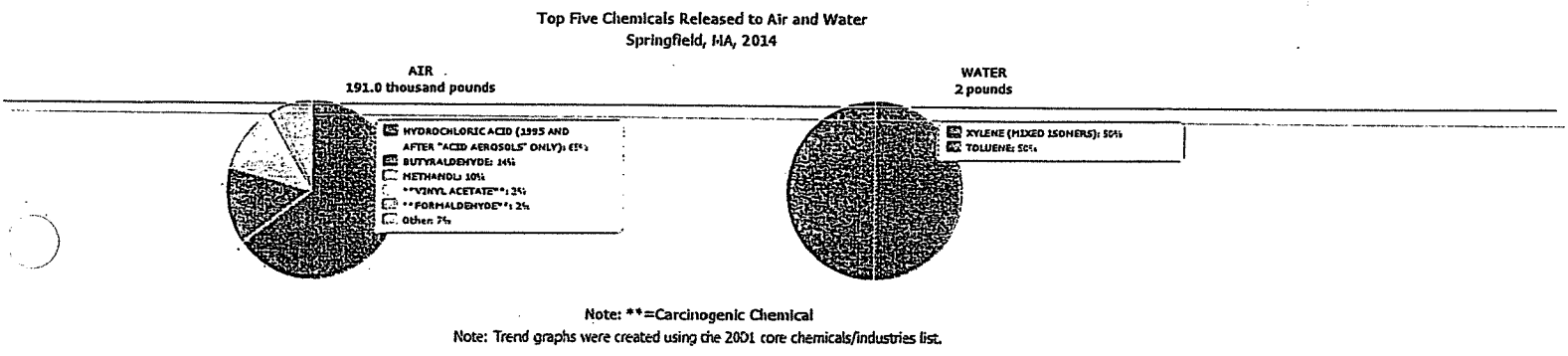
History is littered with negative environmental impact in many communities across the USA. I do not support Biomass within the Springfield Community.

There are alternatives that can be explored and considered, such as Wind and Solar Energy.

Partners for a Healthier Community, Inc.

Additional Testimony for the Springfield Public Health Council Public Hearing on Proposed Biomass Plant Site Assignment February 2, 2016

Springfield residents are particularly vulnerable to any increase not only in particulate matter (PM 2.5) but in other air pollutants. The attached report from the EPA's Toxics Release Inventory shows that 191,000 pounds of toxic chemicals were released into the air in Springfield in 2014.
http://iaspub.epa.gov/triexplorer/tri_factsheet.factsheet?&pstate=MA&pcity=Springfield&pyear=2014



Both of the major listed TRI air release chemicals – butyraldehyde and hydrochloric acid -- are irritants that may cause occupational asthma and with chronic exposure may cause or exacerbate asthma. http://www.aoecdata.org/expcodelookup.aspx; http://www.aaaai.org/conditions-and-treatments/library/at-a-glance/occupational-asthma.aspx

We reiterate our support for a health impact assessment process, with an equity lens, as a way of understanding the current research and projections about impacts of biomass plant on Springfield's vulnerable.

We urge the Springfield Public Health Council to institute a site assignment review to protect the health and well-being of all Springfield and its most vulnerable residents.

Sarita Hudson
Pioneer Valley Asthma Coalition Manager
Partners for a Healthier Community, Inc.
PO Box 4895
Springfield, MA 01101-4895
413-794-7600

SHudson@PartnersforaHealthierCommunity

PO Box 4895, Springfield, MA 01101-4895 • Phone (413) 794-7739 • FAX (413) 794-1451
info@partnersforahealthiercommunity.org • www.partnersforahealthiercommunity.org

STEM Middle Academy

An Expeditionary Learning Institute

60 Alton Street
Springfield MA 01109
Phone: (413) 787-6750
Fax: (413) 787-6857

Principal: Kevin Lalime
lalimek@sps.springfield.ma.us
Assistant Principal: Lakia Stanton
stantonl@sps.springfield.ma.us

SPRINGFIELD PUBLIC SCHOOLS - SPRINGFIELD, MASSACHUSETTS

January 20, 2016

We the nurses of Springfield Public Schools have great concern about the building of a biomass plant in our city. The signatures below represent our support of a site review as we feel that this plant will be harmful to the inhabitants of Springfield, especially our students. We also believe that this plant is dangerous to the public health of our city and its residence. The Pioneer Valley Asthma Coalition reported last year that 21% of our population was diagnosed with asthma. As nurses in the city of Springfield we feel a site review is the prudent course of action.

Thank you for your consideration

Stelzer, Alma

From: mbooth.pfpi@gmail.com on behalf of Mary S. Booth <mbooth@pfpi.net>
Sent: Monday, January 25, 2016 3:11 PM
To: Stelzer, Alma
Subject: Comments for the PHC
Attachments: PFPI bioenergy comments on FIP 1-21-16.pdf

Hello,
As input to the PHC on the Palmer Biomass situation, I thought it might be helpful for the PHC to see input we'd provided EPA on a recent Clean Power Plan related rulemaking. As part of our comments, we submitted some information on operation of biomass plants in various places. That section of the comments is pasted below, and the full comments are attached.

Thanks very much,
Mary Booth

Industry compliance is extremely poor already – why expect it to improve?

The biomass industry has a poor record of compliance with air quality regulations and regulations restricting burning of contaminated fuels, and enforcement by state agencies and EPA itself has been extremely inconsistent. It's hard to imagine how regulations concerning "qualified" biomass under 111(d) would be enforced, given that many facilities seem to burn almost anything they want with impunity. For example:

Evergreen Community Power, Reading, Pennsylvania

Burns contaminated wood and some non-biogenic materials (plastics) in non- attainment area for EPA health standards for PM, ozone, and airborne lead; was allowed to be permitted as a "minor" to avoid Title V, even though emissions have since exceeded limits. See,

http://www.pfpi.net/wp-content/uploads/2014/04/PFPI-Biomass-is-the-New-Coal-April-2-2014.pdf

L'Anse Warden plant, Michigan

Coal-to-biomass conversion is most polluting plant in Michigan, per MWh. Burns tires and creosote- and pentachlorophenol-treated railroad ties. EPA Region V has finally launched an investigation into this plant, which pollutes the community continuously with wood dust from grinding treated wood, and soot-blowing at the plant. See,

http://www.pfpi.net/groups-say-u-p-biomass-power-plant-blankets-community-in-toxic-soot

Covanta plant in California:

Dioxin-loaded wood ash from Covanta's wood-burning power plant was ploughed into farmland as "soil amendment." The company claimed it was too expensive to test the fuel for contamination, so they closed the plant. See,

http://www.newsreview.com/chico/settlement-reached-in-popi-case/content?oid=15836324

Plainfield Renewable Energy, Connecticut

This plant burns construction and demolition debris and like the Michigan plant above, contaminates the community with blowing dust from the wood grinding operation and a continuous stink from the wood pile. The citizens affected by the plant have filed about thirty complaints with the Connecticut DEEP complaining of rancid wood odors, burning wood, contaminated dust, wood chip dumping, and other toxic nuisances. Their latest complaint to DEEP states,i[1]

"The pollution coming from Plainfield Renewable Energy's facility is getting worse. The new owners are worse than the previous owners. PRE has a horrific environmental compliance history and is unquestionably the dirtiest power plant in the State of Connecticut. Neighbors of the Greenleaf plant can't open their doors or windows and are being continuously dumped on. This is an ongoing air pollution and solid waste disposal problem that is impacting the environment, health and properties of Plainfield residents and businesses."

Collins Pine Sawmill, Chester, California

This facility was burning contaminated materials and dumping ash in the forest, where it contaminated a local lake. A suit filed by community members alleged that the company knowingly allowed toxic discharge into drinking water sources, forested land, and surrounding areas in Plumas County. A consent decree required the company to upgrade its pollution controls and monitor wastewater released from the plant to reduce or prevent contamination in effluent discharged from its facilities. The court also ordered the requirement that Collins Pine could only burn clean cellulosic biomass. The settlement cost the facility $150,000.ii[2] It took hiring a private law firm to achieve this settlement, because the Cal EPA was essentially denying there was a problem for years and downplaying residents' concerns, as a Freedom of Information Act request revealed.

PFPI has reviewed close to 100 construction and operating permits for biomass plants around the country, and has been asked to help in numerous situations where operating plants were polluting communities, burning contaminated fuels, and generally making life miserable for those nearby. While our sample is obviously biased to the bad actors in the industry, what we've observed is that biomass plant operators often express a profound contempt for regulation, which is abetted by lax state regulators and EPA's general lack of oversight. As contemptuous as the industry is of air quality and fuel contamination regulations, multiply that by ten to understand their feelings about carbon accounting and the distinctions among fuels that EPA proposes for identifying "qualifying" biomass. Any idea that the bioenergy community would self-enforce to ensure it only burns "qualifying" biomass is hopelessly naïve.

Mary S. Booth, PhD | Director, Partnership for Policy Integrity
mbooth@pfpi.net | landline: 413-253-3256 | mobile: 917-885-2573

i[1] Email from Concerned Citizens of Plainfield, January 18, 2016.

ii[2] Plumas County News. Collins Pine Company Settles Lawsuit. December 9, 2015. At http://www.plumasnews.com/story/2015/12/09/news/collins-pine-company-settles-lawsuit/560.html.

Stelzer, Alma

From: Concerned Citizens of Plainfield <concernedcitizensplainfield@gmail.com>
Sent: Tuesday, January 26, 2016 6:53 PM
To: Stelzer, Alma; Claire B.W. Miller
Subject: Palmer Renewable Energy Public Hearing Comments
Attachments: PREWoodStorage.pdf

Springfield Public Health Council Members,

I would like to thank you for the opportunity to speak at the Palmer Renewable Energy Plant (Palmer Plant) public hearing that was held on January 20, 2016. In my presentation I described the numerous complaints that the Concerned Citizens of Plainfield (CCP) have filed against the Plainfield Renewable Energy Plant (Plainfield Plant) located in Plainfield, Connecticut. The Plainfield Plant started operation in January 2014. CCP has filed a total of 295 nuisance complaints against the Plainfield Plant to date.

To recap CCP has filed 4 complaints for noise, 7 complaints for black smoke from the stack, 28 complaints for dumping wood chips on the road and in neighbors yards, 62 complaints for wood dust emissions, 30 complaints for operating with dust pollution controls disabled, and 164 complaints for bad odors.

I also stated that the proposed Palmer Plant was similar in design to the Plainfield Plant indicating that Springfield could expect the same nuisance issues if the Palmer Plant were built.

In their rebuttal, a proponent of the Palmer Plant stated that he was familiar with the Plainfield Plant and that there were differences between the Plainfield and Palmer Plants that would result in fewer odor and dust emissions from the Palmer Plant. Specifically the proponent stated that the Plainfield Plant had some outside storage of wood chips and that the Palmer Plant had all its wood chips stored inside a building which would contain dust and odors.

I would like to clarify this for the Health Council. I have read through the Palmer Plant's air permit issued by Massachusetts DEP (copy of relevant section attached). The Palmer Plant air permit does state that the wood chips will be stored in the storage shed as the proponent described. However, what the proponent failed to explain to the Health Council is that the west side of the storage shed is left open to allow front end loader access and the 3 sided storage shed is also equipped with a 60,000 acfm ventilation system that will exhaust untreated storage shed air to atmosphere. Based on the storage shed dimensions, the exhaust system will provide 3 complete air changes per hour with the storage shed empty and 5 air changes per hour with the shed full of wood chips. That's one complete air exchange every 12-20 minutes. So despite the fact that the wood chips are inside the shed, the ventilation system will ensure that all the dust and odor still ends up blowing outside to the atmosphere. Yes there are some differences between the Plainfield Plant and Palmer Plant wood storage but the end result is the same. All the dust and odor will blow off site.

There are two other issues that the proponent stated during the hearing that I would like to comment on.

The proponent stated that the Palmer Plant will be constructed to incinerator specs that would allow them to burn demolition waste wood, however the Palmer Plant did not intend to burn any demolition waste wood. This should raise a red flag. Why would the Palmer Plant go to the extra expense to construct a plant capable of burning demolition waste wood if they have no intention of doing so? The answer is simple. Within two years after startup the Palmer Plant they will realize that there is insufficient green wood to keep the plant