

732 Main Street
Williamstown MA 01267
April 14, 2009

Mr. Nicholas Zavolas
MEPA Analyst
EOEEA
100 Cambridge St.
Boston MA 02114
By email

Re: EEA No. 14388: Pioneer Renewable Energy, Greenfield MA

Dear Mr. Zavolas:

These comments are submitted for consideration with regard to the ENF on the above-referenced project. For the reasons described below, a full scope EIR should be required. Additionally, the Massachusetts Renewable Energy Trust's predevelopment financing (\$250,000) constitutes "Financial Assistance" under the MEPA regulations, triggering a full scope EIR.

1. Need and Alternatives

The ENF discussion of the need and benefit from this project is inadequate. It consists of a two page analysis (Section 1.01) that relies on four points to demonstrate the need for the project: (1) That because the Massachusetts Renewable Energy Trust (the Trust) gave the proponent a \$250,000 pre development grant, there is a "public need" for the "rapid implementation" of the biomass project; (2) The project is "critical to achieving the Commonwealth's renewable energy goals" under the Green Communities Act; (3) ISO-NE reports more new capacity is needed; and (4) The plant will meet the Pioneer Valley Planning Commission's goals for renewable energy. Each of these four assertions is based on incomplete and/or erroneous information, as shown below, and therefore an EIR with a complete needs analysis should be required.

A. Massachusetts Renewable Energy Trust Financing

The ENF, pg. A-1, footnote 1, cites the Massachusetts Renewable Energy Trust's 2004 "Climate Protection Plan" (the Plan) as justifying the need for biomass, which the ENF describes as "carbon neutral energy generated using indigenous resources." The Plan itself is based on erroneous and unsubstantiated data describing the incineration of wood as carbon neutral. See, table on page 31 of Plan. The Plan states, without citing any scientific data, that the CO₂ emissions of burning wood are "offset by carbon

sequestration during biomass regrowth.” Current science challenges the 2004 Plan assertion that all biomass, including cutting trees and burning wood, is carbon neutral.¹

The EIR should independently verify the statement of carbon neutrality referred to in the Plan, and should provide a description of the timeframe for the biomass regrowth that *this project* depends upon for its statement of carbon neutrality. In other words, the EIR should require a description of how long it will take to regrow the 30 year wood supply that the project is going to use, including the trees and wood for pallets, while accounting for the ongoing harvesting needed to maintain fuel stock for the plant. Will the wood burned in year 30 of the plant’s operation (say 2050) be instantaneously replaced that year? It is obviously impossible, just as it is for the first year of operation as the ENF is currently written. At the moment, a plant that dramatically increases CO₂ emissions, while not having immediate offsets, will only worsen the acute crisis in climate change.

According to Silvicultural And Ecological Considerations Of Forest Biomass Harvesting In Massachusetts (Biomass Report) cited in the ENF,

Biomass harvesting will have negative impacts on forest carbon storage, largely through the removal and combustion of carbon stores from the harvested site. These harvests not only remove carbon stored in living biomass, but also limit the development of large standing dead trees and downed logs, which are important forest carbon sinks. An additional negative impact comes from the removal of harvest residues from the site. These residues are important for maintaining post-harvest forest floor carbon pools and their removal could lead to reductions in soil carbon sinks (p. 50, Yanai et al. 2003).

The EIR should contain a “lifecycle green house gas emissions” analysis, as defined by the proposed RPS Class I definition, and should include emissions associated with cutting, chipping, and hauling the wood supply, and all other types of “biomass” including paper cubes, that are eligible to be burned in the plant. The EIR should specifically quantify the “negative impacts of impacts” wood harvesting for this project on soil quality and habitat for indigenous flora and fauna, and the associated decrease in carbon sequestration capacity.

The ENF provides no documentation that there is enough wood within the 50 mile radius of the project to support the fuel needs of this plant for its lifecycle (assumed to be 30 years) and that the ENF assertion of using “indigenous resources” is at all possible. See, ENF Comments of Massachusetts Forest Watch, April 1, 2009.

The Plan contains inherent and irresolvable contradictions: first, it asserts that burning wood is carbon neutral, page 31, and then promotes the use of forests as “carbon sinks.” Principle 10, page 44. The Plan claims that the state will balance burning wood

¹ Johnson E, Goodbye to carbon neutral: Getting biomass footprints right, Environ Impact Asses Rev (2008), doi:10.1016/j.eiar.2008.11.002.

from public lands with government action to manage state lands for carbon sequestration purposes. The Plan states,

The state will continue its efforts to maintain existing forests, increase land conservation areas, and give incentives for native (non-invasive) reforestation of previously forested areas. The amount of carbon stored or sequestered by these activities will be measured and monitored over time to ensure that real carbon benefits accrue, and to better understand the long-term benefits of such programs.”

The Plan also asserts the Commonwealth will have a “carbon resource management plan of state forests and other public lands.” P. 45.

Neither the Massachusetts Renewable Energy Trust nor the Commonwealth are doing what the Plan claims will be done to ensure that forests are managed for carbon sequestration. In fact, the Commonwealth’s forestry management program is in a state of dysfunction and responsible state officials are currently unable or unwilling to take steps necessary to ensure forest stewardship in a manner consistent with state law. DCR’s flagrant, longstanding and well documented violations of M.G.L. c. 13A, § 2B, c. 131 § 4, and 301 CMR 11.00 were outlined in a letter to the consultant who is reviewing the state’s FSC program. See letter from Attorney Gaffney to Robert Hrubes, Scientific Certification Systems, Point Richmond, CA, dated April 3, 2009.

Until such time as all of the Plan’s principles are being executed with regard to forest management, the Plan cannot be used, in isolation, as a basis for justifying “biomass” as a renewable energy source.

Regardless of the Trust’s decision to give the proponent financing, the ENF provides no analysis of the Commonwealth’s need for need for 47 MW of “renewable energy”². It merely makes generalized references to the Green Communities Act, without describing the Commonwealth’s total energy needs and what percent of that is now from renewable sources, and what other plants are in the pipeline. I note that including Greenfield, there are four other “renewable energy” biomass power plants in various stages of development or operating in Western Massachusetts:

Russell Biomass – 50 MW (approved by MEPA 2008)
Tamarack, Pittsfield – 50 MW³
Palmer Renewable – 38 MW (approved by MEPA 2008)
Fitchburg Pinetree - 17 MW (existing plant)

Wind projects and solar in the Berkshires (Brodie Mt., 15 MW) and elsewhere are also under development. Nowhere does the ENF state how many renewable energy MW

² For the reasons addressed by other commenters, the combustion of wood that is logged for power generation should not be considered “renewable.”

³ Berkshire Eagle, 3/21/09. Plant to be supplied with wood from forests, sawmill, and development and land clearing waste. Estimated 500,000 tons/year.

are needed, how many such MW are currently underdevelopment, and where Greenfield biomass fits in that picture.

B. Requirements of the Green Communities Act

Under the Green Communities Act, MGL c. 25, § 21,⁴ in order to mitigate costs to customers, DOER must ensure that energy needs are met by conservation and efficiency if that is less expensive than building new power plants. DOER has not provided evidence that it is more cost effective to build new power plants (in Russell, Pittsfield, Greenfield, Palmer, Ludlow, Billerica, Brockton and Westfield, among others) than to implement conservation and demand reduction measures. To comply with the Green Communities Act, the EIR should demonstrate that building a new power plant is more cost effective than conservation and efficiency.

In order to increase energy efficiency, at minimum this project should be required to be approved as a co-generation plant. Plants which use wood as a source of heat operate at approximately 25% efficiency, depending on the moisture content of the wood. Co-generation plants achieve up to 80% efficiency by implementing a combined heat and power system to capture the heat lost in incineration of its wood supply so that this heat can be used for local industry or to heat local homes/schools/municipal buildings. There is simply no excuse for not requiring co-generation.

C. ISO-NE Forecast

Appendix A of the ENF states that ISO reports New England needs more than 2,400 MW of new installed capacity by 2017, assuming no retirements. As the ENF comment letter from Massachusetts Environmental Energy Alliance (MEEA) describes, this is a misstatement of the ISO report.

Moreover, more recent data from ISO forecasts a near term decline in energy consumption (load). ISO's February 2009 load forecasting shows a decline in energy consumption (load) for the 2008-2009 period, and projects that it will be 2012 before consumption (load) goes back up to pre-2008 levels. See, graph in Slide 9 of the ISO February 2009 meeting materials at:

http://www.isone.com/committees/comm_wkgrps/prtcpnts_comm/pac/mins/_2009/minutes_25-2.doc

⁴ (a) To mitigate capacity and energy costs for all customers, the department shall ensure that, subject to subsection (c) of section 19, electric and natural gas resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply. The cost of supply shall be determined by the department with consideration of the average cost of generation to all customer classes over the previous 24 months.

The proponent's energy consultant stated at the April 8, 2009 MEPA meeting that ISO projects a 1.9% rate of growth for energy demand. This statement is clearly erroneous in light of the published facts in the February 2009 meeting materials from ISO. Moreover, ISO-NE missed its 2008 forecasts by almost 4%. At the present time, ISO-NE's position is that electric demand will not increase again until 2012.

That there is no energy need for the Greenfield biomass plant is demonstrated by the fact that 348-megawatt natural gas-fired power plant proposed for North Billerica will likely not be online until 2013, due to a decrease in demand for electricity according to DG Clean Power. In addition to reduced consumer demand, the need for peak loads have been further reduced by the ISO entering into demand response contracts with several businesses in which the grid pays businesses to turn their lights off during peak hours to conserve energy. Since biomass plants are most efficient used to meet baseload, the comparison number should be average base load, not peak figures, further extending the time before new power capacity is necessary.

The need for this project must also be evaluated in the context of the other fossil fuel power plants that have been approved by MEPA. The Brockton Power Plant (now called Brockton Clean Energy) is a 350 MW gas and diesel plant, and the Pioneer Valley Energy Center in Westfield (within 50 miles of Greenfield) will also use gas and diesel and will generate 400 MW.

A recent report concludes that rising energy demand in the Northeast can be met until 2020 by upgrading the grid, and this is about 14 billion dollars cheaper than building new fossil fuel burning plants, such as the Brockton, Billerica and Westfield Pioneer Valley Energy Center (400 MW on the Westfield River, a tributary to the Connecticut River, which will evaporate 90% of 2 mgd of water that would be otherwise discharged to the River).⁵

The Greenfield project cannot meet the purpose and intent of MEPA until the DOER and EOEEA present a comprehensive energy plan that includes carefully justified energy needs, the total MW of power already approved by MEPA, and what percent of demand can be met by conservation and efficiency. Until such a plan is presented, there is no way for EEOA agencies to "facilitate environmental planning for Projects requiring Agency Action..." and no way to address the purpose of MEPA which is to "consider the positive and negative, short-term and long-term potential environmental impacts for all phases of a Project, and the cumulative impacts of the Project and any other Project or other work or activity in the immediate surroundings and region." 301 CMR. 11.01(d)

D. Pioneer Valley Planning Commission

The comment letter from MEEA describes now, in fact, the Commission's forecasts do not support a need for the Greenfield plant.

⁵ "The Benefits of Upgrading the Northeast Electrical Grid: Putting Massachusetts on the Path to a Sensible Energy Strategy," Massachusetts Slow Growth Initiative, Oct. 2008.

2. Air Impacts

The ENF shortcomings and inconsistencies are outlined in the MEEA comments on the ENF.

I specifically request that the MEPA Certificate require DEP to provide public notice in the Environmental Monitor of the proponent's Air Plan Application and of DEP's Air Plan Approval. DEP has no uniform, regulatory requirement establishing the method of public notice of Air Plan Approvals (i.e. air permits). The Commonwealth's program for regulating air pollution consists of over 500 pages of conflicting and ambiguous regulations. DEP uses an ad hoc and inconsistent means for notifying the public of its permit decisions, a process that is indefensible. In the Russell Biomass project, DEP provided timely notice of the air permit approval to only the company, impeding the public's right to seek administrative review of the permit. See, In re: Russell Biomass, LLC, OADR Docket No. 2009-008; Air Conditional Plan Approval Application 1-P-05046. This has resulted in costly and inefficient litigation over DEP's failure to provide public notice and the public's right to have notice of agency actions that affect the public interest.

Given the climate change crisis, public participation in EOEEA's efforts to address greenhouse gas emissions and other aspects of air pollution is critical. EOEEA should make every effort to use the MEPA process to ensure transparency in order to meet the statute's goal of environmental planning and prevention of damage to the environment from climate change.

3. Wood Supply

An EIR should be required to address the facts contained in the ENF comments Massachusetts Forest Watch and MEEA. At a minimum, EOEEA should request that DCR provide an explanation for the documented clearcuts on state lands and what assurances will be provided that such so-called "sustainable" logging will not occur in the future.

The ENF fails to provide documentation that there is an adequate supply of "clean" wood for the four biomass plants proposed for the region. These four plants are all within a 50 mile radius of each other: Russell Biomass, Tamarac/Pittsfield, Palmer Renewable, and the Fitchburg Pinetree plant which is currently using whole logs as a fuel source. The use of whole logs as a fuel source is at odds with a number of descriptions of sustainable fuel source supply that assert use of whole logs is generally uneconomic so that it is only done in circumstances of limited supply.

The EIR should document the ability of the plant to operate for its lifespan, which is undefined at this point, with "clean wood" and the proponent should be required to provide a legally binding, enforceable deed restriction that is binding on successors and

that restricts the type of biomass that can be burned at the facility. At the recent Biomass meeting in Atlanta (April 6-8) there were repeated references by financiers and developers and power producers to the current limits in the market secondary to multiple failures of biomass plants in New England during the 1980's because of lack of adequate fuelstock supplies.

4. Traffic Impacts

The ENF states that there will be a total of 495 vehicle trips associated with the project and the current gravel pit operations. There is no information provided as to how many years the gravel pit operations will continue to operate. The ENF states the pit will operate for "several years." Given that the pit contains a finite amount of extractable sand and gravel, it should be possible to provide a general prediction of the lifespan of the pit.

The ENF states that after the gravel pit ceases operations, there will be 230 vehicle trips per day, 7 days per week, from 6 a.m. to 8 p.m. The ENF also states that this will consist primarily of tractor trailer trucks delivering 25-30 tons of wood per truck, and that 75% of these trucks will travel on Route 2 West of Greenfield.

The portion of Route 2 that will be used by 75% of the tractor trailer trucks from the project constitutes "The Mohawk Trail Scenic Byway" designated in 1953 as a "National Scenic Byway" under Federal law. This corridor includes the communities of Greenfield, Shelburne, Buckland and Charlemont in Franklin County; and Savoy, Florida, Clarksburg, North Adams and Williamstown in Berkshire County. The total length of the Byway is approximately 41 miles, with 22 miles in Franklin county and 19 miles in Berkshire County. The Berkshire Regional Planning Commission and the Franklin Regional Council of Governments (FRCOG) recently completed the *Mohawk Trail Scenic Byway Corridor Management Plan* for the Mohawk Trail.

The ENF does not address the traffic, noise and visual impacts on the use of the Mohawk Trail and the values sought to be promoted by the *Management Plan*. Moreover, the ENF does not address whether other wood supply trucks from the Pittsfield, Russell, and Palmer biomass plants, all within 50 miles of Route 2, will also be using the same Route. Based on 230 truck trips for the 47 MW Greenfield plant, if there are conservatively 200 truck trips for the Russell, Pittsfield, and Palmer biomass plants, that is a total of 800 logging trucks per day that could potentially use the Mohawk Trail to reach wood supplies in northwestern Massachusetts, central and eastern New York, southwestern Vermont, and northwest Connecticut.

An EIR should be required to address the traffic impacts of the Greenfield plant on local roadways, and the cumulative traffic impacts of all of the biomass plants that will be using local roadways (all of the plants state they will get their wood supply from within a 50 mile radius of the plant, and the plants are all within 50 miles of each other – Russell, Palmer, Pittsfield, Greenfield, and Fitchburg/Pinetree). My home is located on Route 2 within a 50 mile radius of the Russell, Pittsfield and Greenfield plants and I will

be directly impacted by the increased noise, diesel emissions, and traffic congestion from up to 600 supply trucks needed for these three biomass plants alone.

5. Water Resources

The project will take between 498,222 and 830,097 gpd from the wastewater treatment plant, evaporate about 80% of that, and discharge back to the Greenfield municipal WPCP between 119,227 and 161,260 gpd, with water usage and discharge dependent upon ambient temperatures. The project will have the capacity to pump up to 970,000 from the WPCP, which it may need to do for “transient conditions and the need to replenish on-site water storage after various draw-down events.” The nature of these conditions and draw-down events are not described in the ENF, nor are the duration and frequency of these conditions and draw-down events described.

The WPCP generates an average of 3.8 mgd which is discharged to the Deerfield River. ENF, Pages F1-4. Monthly average discharges from the WPCP over the last four years have fluctuated between 2.0 to 7.9 mgd. The lowest average daily discharges have been in June (3.0 mgd), July (3.1 mgd), August (2.8 mgd), and September (2.5 mgd). The project’s water usage will be highest during hot summer conditions. Page F-1. Under hot summer conditions, when the plant will be using the most water, i.e. taking 830,097 gpd from the WPCP and discharging back 161,260 gpd, the project will have used up about 24% of the WPCP flow of an average of 3.8 mgd that would be otherwise going to the River. River flows are lowest during the summer and fall months, when the plant’s water needs are highest. Under the worst case scenario, when the project pumps up to 970,000 gpd from the WPCP, and the plant is discharging only 2.5 mgd (Table 4-2), the WPCP contribution to the flow in the river, during a time of low river flows, will be diminished by 776,000 gpd, or about 31%.⁶

The ENF repeatedly refers to the WPCP’s flow augmentation to the River as “essentially insignificant”, F-17, “de minimus”, F-19, F-20. The ENF does not model seasonal streamflow fluctuations, or describe the impact on the River of scenarios such as that where the project is using 970,000 gpd for a prolonged period, and the River flow is low. It is a well-established principle of streamflow science that “nature doesn’t live on the average” and therefore the mean and average flow calculations in the ENF are meaningless for determining the impact on the River of the project’s evaporation of 80% of the water that would have otherwise gone to the River to contribute to its natural flow regime.

As stated in the March 30, 2009 ENF comments of the Connecticut River Watershed Council, the EIR should address the cumulative impacts on water resources in the Connecticut River Watershed. This includes the fact that the Pioneer Valley Energy

⁶ $970,000 \times .20 = 194,000 \text{ gpd}$
 $970,000 - 194,000 = 776,000 \text{ gpd}$
 $776,000 / 2,500,000 = 31.04\%$

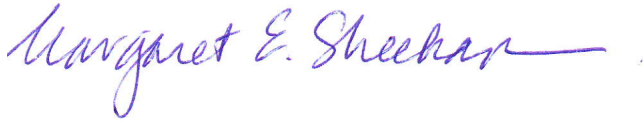
Center in Westfield will evaporate 90% of 2 mgd, and that the Russell Biomass plant will evaporate 85% of up to 885,000 gallons per day withdrawn.

6. Cumulative Impacts

Under 301 CMR 11.07(h), the EIR should address the direct and indirect impacts of the project, the short and long term impacts, and the cumulative impacts on wood supply, air, traffic, water supply, and the waste assimilation capacity of the Deerfield River and the Connecticut River.

Thank you for considering my comments on this project.

Very truly yours,



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