

## Palmer Renewable Energy, LLC Response to Comments Document – June 30, 2011

### Executive Summary of Plan Approval Changes in Response to Comments

In response to the comments which have been specified in the tables below, MassDEP has made the following changes to the conditions of the Non-Major Comprehensive Plan Approval #1-P-08-036.

1. PRE has requested to modify Condition #28 of Section 8. SPECIAL TERMS AND CONDITIONS to state the following:

Pursuant to the best available control technology provision of 310 CMR 7.02(8)(a), wood fuel deliveries and lime silo loading shall be limited to the hours of 6AM through 7PM and the operation of the front end loader and wood grinding operation shall be limited to the hours of 6AM through 10PM.

2. PRE has requested that a condition be added to the Plant-Wide Additional Requirements contained in Section 8. SPECIAL TERMS AND CONDITIONS which requires all trucks loaded with wood fuel entering or exiting the facility to have enclosed trailers or have their beds completely tarped. MassDEP has added the following condition:

Pursuant to the best available control technology provision of 310 CMR 7.02(8)(a), all trucks loaded with clean wood entering or exiting the facility via public roadways shall have enclosed trailers or have their truck beds completely tarped prior to exiting the facility so as to prevent the emission of fugitive particulate matter.

3. The following requirement was added to the Plant-Wide Additional Requirements contained in Section 8. SPECIAL TERMS AND CONDITIONS to minimize the consequences of an accidental release in accordance with the “general duty clause” of Section 112(r) of the Clean Air Act.

Palmer Renewable Energy, LLC shall ensure that the diked area around the aqueous ammonia storage tank is equipped with passive evaporative control (such as polyethylene balls) that, in the event of a spill, is capable of achieving at all times a minimum surface area reduction of 90% and is maintained free of ice/snow/leaves or anything else that could reduce its surface area reduction properties.

4. PRE has volunteered to annually obtain mass-rate NOx emission reduction credits for the ozone season. Therefore, the following condition was added to the Plant-Wide Additional Requirements contained in Section 8. SPECIAL TERMS AND CONDITIONS .

By October 31 of each year, Palmer Renewable Energy, LLC shall calculate the total combined mass-based NOx emission rate in units of tons for the immediately preceding ozone season which is from May 1 through September 30 of each year. Palmer Renewable Energy, LLC shall then purchase mass-based NOx emission reduction credits for the amount of NOx emissions which were calculated for the preceding ozone season rounded up to the next whole ton. The purchased mass-based NOx emission reduction credits shall be transferred to MassDEP in order to be retired. Palmer Renewable Energy, LLC shall keep records of the ozone season NOx emission rate for each year as well as documentation for the amount of ozone season NOx emission reduction credits which were purchased and retired for the benefit of the environment.

5. Reporting Requirement Condition #7 has been modified to include a goal of achieving a minimum efficiency of 33% within 5 years of commencing operation.
6. Conditions #5,# 6,#7 and #9 of the Emission Limitation and Restrictions section have been revised to incorporate the updated BACT emission rates for filterable PM, total PM-10, total PM2.5 and volatile organic compounds. These emission rates have become more stringent than what was listed in the draft for public comment.

Table 1a Area of Concern	Commentors	Relevant Comments	Response
<b>Poor Air Quality Concerns</b>	Pat Conant Holman	1) "To most residents and people in the Pioneer Valley this is too much pollution."	<p><b>Air Quality Background</b> Several comments have expressed concern that the MassDEP plan approval assumes a baseline of pristine air quality and that no current baseline has been taken into account. However, the background concentration, or baseline, was evaluated by MassDEP which is discussed in Section V. Ambient Air Quality Impact Analysis of Non-Major Conditional Plan Approval 1-P-08-036. In the case of Palmer Renewable Energy, LLC, it has been demonstrated that the plant will neither cause nor contribute to a violation of the NAAQS in terrain surrounding the site. Therefore, the plant will not have an adverse effect on public health or welfare in the area.</p> <p>MassDEP determined the background concentrations by using the closest, most representative air pollutant monitoring locations to the project site which are located in Springfield and Boston's Kenmore Square. For NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, CO and SO<sub>2</sub>, the monitor located in Springfield was used. For lead, the Kenmore Square monitor in Boston was used, which is the only lead monitor in the Commonwealth. These monitors conservatively take into account the existing contribution of emissions from all background sources including those such as Palmer Paving, the impacts of aircraft emissions from jets at Westover Air Force Base (AFB), vehicle traffic, etc.</p> <p>The background data selection methodology is consistent with EPA and DEP guidance and is described below. To determine background pollutant levels representative of the area, the most recent air quality data reports prepared by MassDEP and data obtained from the EPA were reviewed. MassDEP guidance specifies the use of the most-recent 3-year period (2007-2009) of available monitoring data representative of the Project site. A summary of the air monitoring data and the selected background values for CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and lead are shown in an amended Table 5-3 of the non-major comprehensive plan approval application, dated December 3, 2010.</p>
	Donald J. Carr, Springfield	2) For 2010 the American Lung Association gives Hampden County and all counties in MA an "F" grade for smog. It gives Hampden County a "C" grade for short-term particle pollution. This facility may worsen the situation."	
	Chris Matera- Mass Forest Watch	3)Hampden Co. already has failing air quality with 1 in 5 Springfield children already suffering from asthma. Burning 430,000 tons of wood per year in the middle of a city with already poor air quality will only make the air quality worse.	
	Justin Marsh	4) "...the project will decrease air quality..."	
	Michael Gossman, Springfield	5)"Biomass burning for electricity poisons our air..."	
	Lorraine A. Silver, Chicopee	6)"I believe this area has enough hazardous air with the former Monsanto (currently Solutia) plant running full-blast 24 hours per day, the Waste Management station, and the Chicopee dump near the Springfield exit of the Mass. Turnpike"	
	Tom, Mary Jean, Anne and Catherine Daly	7) "Our Citizens Demand Clean Air!"	
	Shirley Dupre, Springfield	8)"Springfield has some of the worst pollution in the state."	
	Chrisoula Marangoudakis, Longmeadow	9) "...this plant is not a good idea for the city of Springfield and surrounding areas because Pioneer Valley is already extremely polluted." 10)"I suggest that an environmental impact review be performed on the city before even considering building such a plant in an already over-polluted area. We need to know what the effects will be on air quality because of this plant, and it would also be extremely helpful to know exactly what is in the air right now..."	
	Todd Gionfriddo	11)"...it will reduce the air quality in the Pioneer Valley."	
John and Shirley Marcinek	12)"To those of us with allergies, we are already severely compromised to the bad air in our valley."		

<b>Table 1b</b> <b>Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response - continued</b>
<b>Poor Air Quality Concerns</b>	Richard Halpin	13) There is already much pollution such as noise, cars and the Monsanto plant.	<p>(continued from Table 1a) The modeled predicted concentrations of SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> CO and lead under the stoker boiler's worst case load of 100% were combined with the representative background concentrations to estimate the total air quality impact from the project. In the case of Palmer Renewable Energy, LLC, it has been demonstrated that the plant will neither cause nor contribute to a violation of the NAAQS in terrain surrounding the site. Therefore, the plant will not have an adverse effect on public health or welfare in the area.</p> <p><b>ALA Grade of F</b> – The American Lung Association (ALA) has given Hampden County a grade of "F" for ozone according to their 2011 State of the Air Report. ALA's F grade for ozone is set to correspond to a county's nonattainment status. However the ALA uses an air quality index that is inconsistent with the scientifically-derived National Ambient Air Quality Standards (NAAQS) set by the US EPA to protect the most sensitive persons in the population with an adequate margin of safety.</p> <p>Additionally EPA has designated Hampden County as attainment for PM<sub>10</sub> and PM<sub>2.5</sub> even though the ALA has stated that Hampden County has received a grade of B for particle pollution. EPA's federal regulations are the governing authority for air quality standards, not the grades from the ALA.</p> <p><b>Increasing Air Pollution Concerns</b> Many comments expressed concern that levels of air pollution are increasing/becoming worse or are out of control in MA. MassDEP has evaluated the long term trends of several pollutants which are constantly being monitored in the state and are discussed for each of the pollutants below. In each case, there has been no trend of increasing pollutants.</p> <p><b>*Ozone</b> - The long term trends with 20 years of monitoring data confirm that we are breathing cleaner air now than we did years ago, thanks in large measure to tougher government regulation and voluntary steps by industry aimed at reducing pollution from vehicles, power plants, factories and consumer products. <a href="http://www.mass.gov/dep/air/aq/aq_ozone.htm">http://www.mass.gov/dep/air/aq/aq_ozone.htm</a>. As required by the Clean Air Act in cases of non-attainment, the Commonwealth has an Ozone State Implementation Plan (SIP) to reduce levels and seek attainment and demonstrate that overall air quality is improving in the state. Also see Ozone response in Table 7d.</p>
	Representative Ben Swan	14) We already have poor air.	
	Representative Sean Curran	15) Not appropriate place for plant for air quality, not suitable to area. Air Quality will be negatively impacted.	
	Tim Allen, Springfield City Council	16) All modeling should be based on current air and not pristine air. These measurements should be reported back to the community in an easy-to-read manner.	
	Jean Caldwell, Pioneer Valley Asthma Coalition	17) DEP failed to look at the totality of emissions on the community.	
	Ben Rajotte – Haverhill, Attorney for STIS	<p>18) PRE is already in an area designated as nonattainment by EPA. There has been no analysis within this permit that compares and links up PRE's projected emissions of ozone precursors specifically in order to assess whether the PRE project, once constructed, will interfere with the area's attainment of the air quality standard for ozone, or if it will inhibit maintenance of the borderline air quality standard for particulates.</p> <p>19) The PRE project would impose a substantial air pollution burden on this community and air shed, further depriving the people of Springfield and surrounding areas of clean air.</p>	
	Jeff Napolitano Program Coordinator American Friends Service Committee	20) Air Quality is already an F and this plant will only make it worse.	
	Wyatt Werner, Leverett	21) Air is already polluted	
	John Miller, Stop Toxic Incineration, Springfield	22) Ozone is out of control.	
	Sylvia Broude, Toxics Action Center	23) Area is already nonattainment so you can't build anywhere. Area has some of the worst air quality in the state. ALA give Hampden County an "F" for air quality and the region gets a failing grade for health. Hampden County ranks 14 <sup>th</sup> WORST in the state for mortality and physical environment.	
	Bill Gibson, Stop Toxic Incineration Springfield	24) Air is already polluted in Springfield	
	Patricia Moss, Springfield	25) Area is surrounded by highways that pollute and greater than 82 brownfields in EJ areas. People already live in polluted areas.	
	Don James, President of Arise	26) There is too much pollution already.	
Ruben J. Santiago, Arise	27) Springfield has an F for quality of air.		

Table 1c			
Area of Concern	Commentors	Relevant Comments	Response - continued
Poor Air Quality Concerns	Curt Mansfield, Springfield	28) Springfield already has bad air. Environmental impact study should be done.	<p>(Continued from Table 1b)</p> <p><b>*PM10 and PM2.5</b> - PM<sub>10</sub> pollution tends to fluctuate from year to year and site to site, but long term trends with 20 years of monitoring data has shown an overall decline in Massachusetts over the years. On the other hand, PM2.5 pollution occasionally approaches levels of concern, particularly in urban and high-traffic commercial areas. Data gathered from the state monitoring network in recent years have indicated that Massachusetts meets National Ambient Air Quality Standards (NAAQS) for both coarse and fine particles.  <a href="http://www.mass.gov/dep/air/aq/aq_pm.htm">http://www.mass.gov/dep/air/aq/aq_pm.htm</a></p> <p><b>*Lead</b> - In October 2008, the U.S. Environmental Protection Agency (EPA) strengthened its health-based primary National Ambient Air Quality Standard (NAAQS) for lead in the air by 90 percent, from 1.5 micrograms per cubic meter (ug/m) to 0.15 ug/m averaged over a "rolling" three-month period.</p> <p>The new secondary standard for protection of crops, vegetation and buildings was set at the same level. These were the first changes to the NAAQS for lead that EPA had imposed in 30 years.</p> <p>Decades of monitoring show that across Massachusetts, lead levels in the air we breathe have been extremely low for many years - well below the NAAQS that was in effect before October 2008. MA is expected to easily meet the newer, more stringent standard.  <a href="http://www.mass.gov/dep/air/aq/aq_lead.htm">http://www.mass.gov/dep/air/aq/aq_lead.htm</a></p> <p><b>*Nitrogen Dioxide</b> - Based on decades of monitoring, Massachusetts has long met the National Ambient Air Quality Standard (NAAQS) for nitrogen dioxide. Levels of NO<sub>2</sub> in our air are currently, and for many years have been, well below the health-based standard established by the U.S. Environmental Protection Agency (EPA).  <a href="http://www.mass.gov/dep/air/aq/aq_no2.htm#trends">http://www.mass.gov/dep/air/aq/aq_no2.htm#trends</a></p>
	Bill Rooney, board of Selectman of Ludlow	29) Air is bad in Hampden County. An environmental impact study should be done.	
	Lyn Martin, Springfield	30) "...our air quality here is very bad, especially for people with breathing ailments, heart prob [sic] and breathing in general." 31) "This massive biomass incinerator will emit gross amount of deadly, pollutants to our already contaminated air."	
	Sheryl Jaffe & Walter Buckingham, Ludlow	32) "The toxins that this plant will produce will undoubtedly mix with all the other toxins we already have, from cars. (the Mass Pike is a stone's throw away), lawn mowers, and the other industrial sites in East Springfield, Indian Orchard and the surrounding towns."	
	Lois Smith, Springfield	33) The air is already bad and the biomass plant will make it even worse.	
	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition	34) Region is close to limits, or out of attainment, for several pollutants.  35) "Even if this incinerator meets all currently established standards, area residents will suffer from degraded air quality and related health effects."	
	Charlotte Burns	36) The valley traps fumes, as if the air quality in Springfield wasn't bad enough.	
	Mike Kocsmiersky, President of Springfield Area Sustainable Energy Association	37) The burning of hundreds of tons of wood per day will lead to drastic increases in particulate matter, an EPA regulated by-product, causing a worsening of the air we breathe in this already poor air quality valley.	
	John Miller, Springfield	38) It seems totally inconceivable that the DEP would knowingly allow more toxic material to be emitted into our already compromised air. Particulate levels are too high; ground level ozone is out of control.	
Lucille Gionfriddo, Agawam	39) The plant should not be allowed in any region that is classified as already having poor air quality much less in Springfield which is also known as an area of social injustice.		

Table 1d			
Area of Concern	Commentors	Relevant Comments	Response - continued
Poor Air Quality Concerns	Timothy McLellan, Chicopee City Council	40)Hampden County's air quality consistently receives an "F" from the American Lung Association with EPA warnings of unhealthy air posted at least four times this year.	<p>(Continued from Table 1c)</p> <p><b>Carbon Monoxide</b> - Before the mid 1980s, carbon monoxide levels in some Massachusetts cities occasionally exceeded the levels allowed under the NAAQS, prompting EPA to consider the state in violation of the standard. A variety of air pollution control initiatives since then, however, have dramatically reduced carbon monoxide levels statewide. Today, all of Massachusetts meets the EPA standard. Our state's last violation of the NAAQS for carbon monoxide was recorded in 1986.  <a href="http://www.mass.gov/dep/air/aaq/aaq_co.htm">http://www.mass.gov/dep/air/aaq/aaq_co.htm</a>.</p> <p><b>Sulfur Dioxide</b> - Massachusetts has seen a steady drop in sulfur dioxide emissions to the air because of a number of effective pollution control initiatives. Today air concentrations of SO<sub>2</sub> in Massachusetts are well below the level of the health-based National Ambient Air Quality Standard (NAAQS) established by the U.S. Environmental Protection Agency (EPA).  <a href="http://www.mass.gov/dep/air/aaq/aaq_so2.htm#trends">http://www.mass.gov/dep/air/aaq/aaq_so2.htm#trends</a></p> <p><b>Cumulative Impacts Modeling</b> - See response in Table 3 below for ambient air quality impact analysis concerns.</p> <p><b>Requests for Environmental Impact Report and Health Assessment</b> –See response in Table 2b below for air quality health concerns</p>
	Ludlow Board of Selectman	41)"...studies show that the proposed area has the worst air quality in the State."	
	Ellen Moyer, Ph.D., P.E.	42)The air quality in the proposed site area is already terrible.	
	Patrice Pare, Chicopee	43) Concerned about poor air quality that already exists in this region. Another source of air pollution should not be added to an area where air quality is already compromised.	
	Stephen Kaiser, PhD	44)"Our ultimate future condition will be polluted air, and it appears DEP has no way of balancing issues of air pollution non-attainment... against the continued issuance of new permits to allow for the release of more pollutants. "	
	Susan Reid, CLF	45) PRE Project's impacts would exacerbate underlying air pollution conditions that rank Springfield in the ignominious position of having some of the worst air quality of any city in the nation. EPA's Toxics Release Inventory data shows that Hampden County is among the three MA counties experiencing the largest number (by weight) of toxic releases to the environment.	

Table 2a			
Area of Concern	Commentors	Relevant Comments	Response - continued
<b>Air Quality Health Concerns</b>	Donald J. Carr, Springfield	1)"I ask you to wait until a thorough and detailed health and environmental impact study is completed." A detailed health and environmental impact study is needed. The environmental study should include greenhouse gases and black carbon (soot).	<p><b>Air Quality Background</b> – See response above for poor air quality concerns in Table 1a.</p> <p><b>NAAQS</b> –Many concerns have been raised regarding the possibility that the emissions from the plant will exacerbate existing health conditions of nearby residents and that the regulations do not protect those with fragile health. In the case of Palmer Renewable Energy, LLC, it has been demonstrated that the plant will neither cause nor contribute to a violation of the NAAQS in terrain surrounding the site. Therefore, the plant will not have an adverse effect on public health or welfare in the area.</p> <p>Any criteria pollutant emissions that are emitted from the plant must comply with the applicable National Ambient Air Quality Standards (NAAQS) as set by the US EPA for the purpose of protecting the most sensitive persons in the population, including people with diseases (e.g. asthma, cardiovascular disease, etc.), children and the elderly, with an adequate margin of safety as stated in the Clean Air Act (CAA). The development and ongoing review process for the NAAQS includes several key elements which are planning, science assessment, risk/exposure assessment, policy assessment and rulemaking. The Clean Air Scientific Advisory Committee (CASAC) is involved throughout the NAAQS review process in providing review and advice on the air quality criteria (AQC) and the standards. There are also numerous opportunities for public participation.</p> <p>Section 109 of the Clean Air Act also requires EPA to review the AQC and NAAQS at 5-year intervals, and to make such revisions in the AQC and NAAQS and promulgate such new NAAQS as may be appropriate. Section 109 further requires that EPA appoint an independent scientific review committee to be composed of seven members that include at least one member of the National Academy of Sciences (NAS), one physician, and one person representing State air pollution control agencies. This committee, the Clean Air Scientific Advisory Committee (CASAC), is required to complete a review of the AQC and NAAQS at 5-year intervals and to recommend to the Administrator any new NAAQS and revisions of existing AQC and NAAQS as may be appropriate. Section 307 of the CAA requires that EPA explain in the rulemaking the reasons for any differences between proposed or final NAAQS and CASAC recommendations.</p>
	Francis G. Ryan, Secretary East Forest Park Civic Association	2) "Even slight, miniscule increases in emissions add to our Environmental and Health Crises!" 3)"As citizens we recognize that burning contaminated, solid municipal waste wood, or any wood for that matter, will only exacerbate our health problems when toxic lead, sulfur, mercury, arsenic and asbestos particulates - however miniscule a percentage of the projected figures- are released into the atmosphere."	
	Francis G. Ryan, Secretary, East Forest Park Civic Association	4) An EIR should be submitted to assure us all that this is truly a safe undertaking.	
	npatruno@comcast.net	5)"...any pollution from the proposed plant will affect neighboring towns in this valley. The Mt. Tom plant, located next door in Holyoke already gives off way too much pollution."	
	Michael Gossman, Springfield	6) Toxic air pollution from these biomass incinerators causes asthma, cancer, heart disease and more.	
	June Kazarnowicz, Springfield	7) "This plant will directly impact the health and well being of myself and my neighbors."	
	Brian and Peggy Bushey, Springfield	8) "Ammonia when on fire can cause many adverse health problems for the citizens, as well as those fighting these fires. The bottom should be NO HARM TO ANYONE. From what I have read concerning this plant, no one can guarantee that."	
	Martha Hoynoski	9)"It is NOT clean nor safe and will create more sickness in our area than need be."	
	Laurel Rancitelli, East Springfield	10)"I am very disheartened over the prospect of trading the health of Springfield residents for the possibility of up to fifty jobs..."	
	Chrisoula Marangoudakis, Longmeadow	11)"The fact that at least 20% of school children already have asthma in the Springfield school system is shocking. Diabetes, cancer and other malignancies have also been found to have some correlation with poor air quality."  12) Emissions are harmful to environment and health.	

Table 2b Area of Concern	Commentors	Relevant Comments	Response - continued
Air Quality Health Concerns	Steven Dzubak, Springfield	13) "The standards that the incinerator must meet do not protect the health of the at risk population who suffer from asthma."	<p>(Continued from Table 2a)</p> <p>In the case of Palmer Renewable Energy, LLC, it has been demonstrated that the plant will neither cause nor contribute to a violation of the NAAQS in terrain surrounding the site. Therefore, the plant will not have an adverse effect on public health or welfare in the area.</p> <p><b><u>Requests for Environmental Impact Report and Health Assessment</u></b></p> <p>Many comments have requested that a full environmental impact report be completed as well as a health care/impact assessment/study. EOEPA Secretary Sullivan addressed these requests in his letter dated March 31, 2011, in regards to a petition for Fail-Safe Review. The Secretary states, "For the reasons set forth in detail in the Certificate issued on November 19, 2010, I do not believe that additional MEPA review is necessary to avoid or minimize Damage to the Environment. The proponent provided a Notice of Project Change (NPC) for public comment that met the regulatory requirements for sufficiency, and went beyond those requirements in providing assessments of health outcome data and greenhouse gas emissions. The NPC served to adequately disclose the likely impacts of the project at a level sufficient to allow the state agencies to make informed permitting decisions, and therefore it was determined that an Environmental Impact Report (EIR) was not required. Moreover, the prior MEPA review of the ENF and the NPC specifically included consideration of whether "other MEPA review" should be required in the form of an EIR. In both instances, it was determined that additional MEPA review was not warranted, and I do not see any new evidence to warrant overturning that decision."</p> <p><b>Secretary Sullivan's Letter 3/31/11</b></p> <p>It was also mentioned in the NPC Certificate dated 11/19/10 that the project changes presented in the NPC do not significantly increase the environmental impacts of the project but rather reduce them, and therefore no EIR is warranted under the regulatory standard. In addition, the project as proposed does not exceed and in fact is not even close to exceeding, any of the MEPA thresholds for the mandatory preparation of an EIR.</p>
	Richard Halpin, Indian Orchard	14) "The massive smoke (Regardless what they say there will be a lot) will have a great impact on the whole area not only SPFLD but westside, Ludlow, Chicopee, Wilbraham and depending on the wind many others. Just think of all the school children it will effect."	
	Representative Ben Swan	15) Strongly opposed due to health impacts.	
	Tim Allen, Springfield City Council	16) "How much sense does it make to be building a plant that will add to air pollution when our county is already in last place, health-wise?" "I agree with the failsafe petition and request that a full EIR be done on this plant."	
	Indian Orchard Citizens Council	17) Requests a health care assessment and environmental assessment to be completed.	
	Susan Sleibinski, MA Medical Society	18) The biomass plant poses an unacceptable public health risk and should not receive RECs and financial incentives.	
	Susan Reid, CLF	<p>19) The project would make health worse not better. PRE would emit 434,737 tons per year of greenhouse gas emissions, damaging particulate matter, ozone precursors and hazardous air pollutants. PRE would emit these pollutants into an area already severely overburdened with air pollution and consequent health impacts, including respiratory illnesses such as pediatric asthma.</p> <p>20) The PRE project will produce air pollution that will actually or potentially be 'Injurious to Human Life.' Pursuant to 310 CMR Section 7.03(j)(3), compliance is required with all provisions of 310 CMR Section 7.00, including that the facility may not "cause a condition of air pollution" through the release of contaminants that are injurious, or potentially injurious, to human life. The DEP still must act to protect against the harm that the PRE power plant would cause.</p> <p>21) PRE's anticipated emissions of ozone precursors such as NOx, VOCs and Ammonia are expected to be harmful. The PRE project will worsen the ozone pollution problem.</p>	

Table 2c			
Area of Concern	Commentors	Relevant Comments	Response - continued
Air Quality Health Concerns	Susan Reid, CLF	22) "PM and fine particles are not threshold pollutants, meaning that any exposure, irrespective of level, can cause adverse health impacts. See, <i>American Trucking Association v. EPA</i> , 175 F.3d 1027 (D.C. Cir. 1999)(there is some possibility of adverse health impact at any exposure level above zero); See also, <i>National Ambient Air Quality Standards for Ozone and Particulate Matter</i> , 621 Fed. Reg 665, 637, 65651-53. The extent of harm increases based on the proximity of the receptor to the source."	<p>(continued from Table 2b)</p> <p>A health risk assessment (HRA) was included in Appendix D of the NPC submitted by PRE. The HRA provided an assessment of the baseline health status with the community, evaluated potential health impacts by comparing project emissions with health-based benchmarks (such as the NAAQS) and evaluated the potential project impacts within the context of background level of pollutants within an appropriate area. The assessment included evaluation of short-term and annual average emissions of criteria air pollutants; assessment of total inhalation cancer and non-cancer health risks associated with stack emissions; acute inhalation risks for respiratory irritants; potential ingestion risks associated with deposition of arsenic, lead and dioxin from the stack onto soils; potential impacts of mercury stack emissions on nearby freshwater fish; and potential risks attributable to other emissions including mobile and fugitive emissions sources associated with the project. The HRA concluded that the facility will not adversely affect public health. –NPC Certificate 11/19/10</p> <p><b><u>EPA 2005 National Air Toxics Assessment (NATA)</u></b></p> <p>Several comments have expressed concern regarding the data provided by the EPA 2005 National Air Toxics Assessment (NATA). The NATA estimated risk based on 2005 toxics emissions data. Since 2005, MassDEP and EPA have adopted programs to further reduce toxic emissions from many sources. MassDEP and EPA have numerous programs in place to reduce toxic emissions. Both agencies are continuing to adopt new programs and regulations that will further reduce exposure to toxic air pollutants.</p> <p>Massachusetts programs that reduce toxic emissions from mobile sources include:</p> <ul style="list-style-type: none"> <li>• Massachusetts Vehicle Check Program</li> <li>• Reformulated gasoline</li> <li>• Vapor recovery nozzles on gasoline pumps</li> <li>• Low Emission Vehicle Program</li> <li>• Emissions testing of heavy-duty diesel vehicles</li> <li>• Retrofitting and repowering of diesel buses, trucks, construction equipment, and locomotive engines</li> <li>• Use of ultra-low sulfur diesel fuel</li> <li>• Anti-idling programs and regulations</li> </ul>
	Matthew Sadof, M.D., Pioneer Valley Asthma Coalition	23) Hampden County is the most unhealthy county in MA in part to PM2.5. 1 in 5 children have asthma in Springfield and asthma has been increasing over time. Air quality is just terrible and adding more particles makes it worse. An environmental impact statement should be made.	
	Michaelann Bewsee, ARISE	24) The DEP regulations are not strong enough and don't take care of people in fragile health. Regulations are designed for the average person. We have asked for an environmental impact study and it was denied, if there is nothing to hide, why not do the study. EJ area does not deserve it.	
	Lee Ann Warner, Stop Toxic Incineration in Springfield	25) There will be 42 tons of PM in an already overburden, area for pollutants which is densely populated and within a 5 mi radius of over 50 schools.	
	Ben Rajotte – Haverhill	26)The plant will cause more pollution and will degrade public health. There has been no evaluation of disparate and cumulative public health impacts that this project will pose.	
	Frank H. Bunton-McKnight Neighborhood Council	27)The plant will affect kids health (asthma).	
	Brian Zelasko, Western New England College	28)The plant will cause an increase of emissions of lead, nitrogen dioxide, volatile organics and particulate matter into the atmosphere with already poor AQ. There has been no health impact assessment and health concerns are unaddressed. Area has high asthma rates.	
	Amaad Rivera, Ward 6 City Councilor	29) Area is EJ designated and should be respected since faced with high pollution and health impacts. City Council has not received any impact studies There is no guarantee that health will not be impacted.	
	Donna Hawk, RRT, American Lung Association of New England	30)The NAAQS are not fully protective and more levels of emissions are dangerous for our health and we are in nonattainment for ozone. Short and Long term exposures to particles can kill. Are concerned about the emissions from the plant and request a hold on the permit till a health impact assessment can be done by a third party.	

Table 2d Area of Concern	Commentors	Relevant Comments	Response- continued
Air Quality Health Concerns	Jeff Napolitano Program Coordinator American Friends Service Committee	31) The plant could make people sick. The air quality is already bad and the plant will only make it worse. .	<p>(continued from Table 2c)</p> <p>Programs to reduce toxic emissions from <u>large industrial and smaller area sources</u> include:</p> <ul style="list-style-type: none"> <li>• The Massachusetts Environmental Results Program, which reduces toxic and other emissions from small printing, dry-cleaning and photo processing businesses and from new engines, turbines and boilers</li> <li>• Federal and state power plant emission requirements</li> <li>• Massachusetts small engines and turbines regulations</li> <li>• Municipal waste combustor regulations</li> <li>• Federal Maximum Achievable Control Technology (MACT) requirements for various source categories</li> <li>• The Massachusetts Toxic Use Reduction Act (TURA), which reduces the use of toxics chemicals by Massachusetts companies</li> <li>• Vapor recovery at bulk gasoline terminals and gas stations</li> <li>• Permit limitations on emissions from large facilities</li> </ul> <p>MassDEP also evaluates a facility's compliance with the Air Toxic Allowable Ambient Limits (AALs) and Threshold Effects Exposure Limits (TELs) which are health-based ambient air toxic guidelines that are used to evaluate the potential emissions from certain facilities that may cause a condition of air pollution. AALs and TELs are published by MassDEP's Office of Research and Standards (ORS). Please see the following related response on Non-criteria Pollutant Health Standards.</p>
	Elliott Stratton, Springfield	32) Concerned about air quality and people with asthma and how their health will be impacted	
	Dr. Sylvia Brandt, Assoc. Prof for Public Policy and Admin. and the Dept of Resource Economics At UMASS	33) The increase pollution from the plant will increase asthma attacks and other health effects in the community. The link between particulate matter and premature mortality is well established. Any proposal that might increase particulate matter in a community deserves extensive review. It violates all principals of environmental justice to forgo the Environmental Impact Report.	
	John Miller, Stop Toxic Incineration, Springfield	34) There are too many health problems already and ozone is out of control, EPA standards do not protect health. Every state is over the health benchmark for toxic chemicals.	
	Sylvia Broude, Toxics Action Center	35)Pollutants are dangerous for residents and results in premature deaths.	
	Jesse Lederman, McKnight Neighborhood Youth Council	36) The plant poses a danger to health and the environment. Jobs at expense of health will not be acceptable.	
	Patti McCauley, Stop Toxic Incineration, Springfield	37) When there is an increase in air pollution, you increase asthma attacks.	
	Bill Gibson, Stop Toxic Incineration Springfield	38)Asthma in Springfield is twice the MA. average and if the plant is built the air will be worse.	
	Stuart Warner, Stop Toxic Incineration in Springfield	39) Federal standards are not health protective.	
	Mary Ann Babinski, Westfield	40) PRE will add more pollution and children will be adversely affected by the plant. Environmental Impact study should be done.	
	Gene Theroux, Southwick	41)) The plant will pollute air and kill children. An environmental impact report should be done.	
	Patrice Pare, Chicopee	42) Regulations are not protective of health. Concerned with asthma and other diseases associated with air quality.	
	Linda E. Blake	43) The project has health concerns.	
Lyn Martin, Springfield	44) "It will endanger every man, woman and child and all animals and birds if approved, and for years to come."		

Table 2e			
Area of Concern	Commentors	Relevant Comments	Response- continued
Air Quality Health Concerns	Jean Caldwell, Springfield	45) "Conduct a health and environmental review and insist that if the plant is built, it cannot cause any increase in pollutants."	<p>(continued from Table 2d)</p> <p><b>Non-criteria Pollutant Health Standards</b>  Many comments expressed concern that non-criteria pollutants will be detrimental to human health. Projected concentrations of non-criteria pollutants were modeled and the maximum impacts over the five year meteorological period for the 100 percent boiler load condition were compared to the annual Allowable Ambient Limit (AAL) and the 24-hour Threshold Effects Exposure Limit (TEL). The AALs and TELs are emission concentrations established by MassDEP to be health protective from toxicity of non-criteria pollutants. As shown in the amended Table 5-8 of the non-major comprehensive plan approval application dated December 3, 2010, the maximum modeled 24-hour and annual concentrations for each non-criteria pollutant are below all applicable MassDEP TELs and AALs. Therefore, the plant will not have an adverse effect on public health or welfare from toxicity of non-criteria pollutants in the area. Also see the response below in Table 3c for how the TELs and AALs were established by MassDEP, how they are applied and why they are considered to be health protective.</p> <p><b>Environmental Justice</b> - See response in Table 21 below for environmental justice concerns.  <b>Cumulative Impacts Modeling</b> - See response in Table 3b below for ambient air quality impact analysis concerns.  <b>Ozone</b> – See response in Table 7d below for ozone nonattainment concerns.</p>
	Sheryl Jaffe and Walter Buckingham, Ludlow	46) "Somebody needs to add up all "the acceptable levels of this toxin and that pollutant" because when you put them altogether, day after day, they simply are no longer acceptable. Reactions to combinations of numerous pollutants have not been properly studied and recorded."	
	Gregory Dean	47) I think it is going to adversely impact the health of a lot of people especially people with existing health problems.	
	Lois Smith, Springfield	48) We can't afford to be putting anything else into the air. Other cities should be involved because most surely they will be effected and the people within them.	
	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition	49)"There are state agencies, health groups and environmental groups that recognize that current federal standards are NOT protective of health. Even as they are, these federal standards were originally set to protect healthy populations, NOT Springfield residents with documented health issues in an Environmental Justice Community, and NOT in a region that is close to limits, or out of attainment, for several pollutants. The biomass power plants pose an unacceptable public health risk.	
	Claudia Hurley, Westfield	50) The current air emission restrictions are not sufficient to protect the health of the people living and working in the area of this proposed plant.	
	Rose and Thomas Murphy, East Springfield	51)The plant is bad for the environment and human beings.	
	Charlotte Burns	52) Fumes mean asthma.	
Margaret Sheehan, Esq., Biomass Accountability Project	53)There is no known safe limit for PM2.5 and smaller nanoparticulates. Any emission of PM2.5 and smaller poses a threat to the public health and is unlawful.		

Table 2f Area of Concern	Commentors	Relevant Comments	Response
<b>Air Quality Health Concerns</b>	Mike Kocsmiersky, President of Springfield Area Sustainable Energy Association	54) The project has avoided the Springfield department of health review, an independent air quality assessment and a more scrutinous assessment from the DEP due to the fact that Springfield is designated an Environmental Justice Community.	
	Mike Hurley, Westfield	55) "There are too many risks associated with this plant that could hurt the residents of the immediate area, the residents of the Pioneer Valley as a whole, and our environment. There are too many unanswered questions and potential problems."	
	Form Letter Submittals	56) "The National Air toxics Assessment results demonstrate that the cancer risk from elevated levels of toxic chemicals in this area already exceeds the rest of the State and most other New England States." "...90 pounds of lead per year and 42 tons more particulate matter per year are contraindicated, moving us farther from a cure."	
	Maryanne Jule	57)"Even if the increase in pollution, added to the existing pollution, stays below the Department of Environmental Protection's guidelines, it will still be an increase of pollution in a city that already has higher than average asthma rates."	
	Jefferson H. Dickey, MD, Northampton	58) Adding to the Pioneer Valley air pollution burden by allowing construction of a new biomass power plant would be expected to increase disease burden and shorten life expectancy in our communities.	
	John Miller, Springfield	59) In Springfield, we already have too many health problems related to air pollution. Particulate levels are too high; ground level ozone is out of control. EPA regulations do not protect the public health, they are too far behind the current science.	
	Lucille Gionfriddo, Agawam	60)The plant will be emitting lead amongst other harmful emissions and despite what your allowable emissions levels are, DEP should recognize that no additional pollutants should be permitted in this area.	
	Timothy McLellan, Chicopee City Council	61) The 2005 National Air Toxics Assessment estimated that state average risk values of five air toxics: acetaldehyde, benzene, carbon tetrachloride, formaldehyde, and polycyclic organic matter exceeded health benchmark in every state in New England.  62) MassDEP's own measurements from Westover Air Base show that several air toxics are already far in excess of the health standards for air toxics set by DEP.	
	Ludlow Board of Selectman	63)"The Selectmen feel that it is their duty to protect our residents from any pollutants that potentially would harm their wellbeing."	
	Glen Ayers, Leverett	64)DEP should delay approval of the pollution permit until all required Public Health studies, with full engagement of the affected stake holders, are completed.	
Mary S, Booth, Ph.D., Pelham	65) Current EPA and DEP data show that current arsenic, lead, cadmium, manganese, formaldehyde, acetaldehyde, benzene, ethylbenzene, styrene and xylene emissions are above background health thresholds. Plant will add another 13 tons per year to the background level.  66) The 2005 National Air Toxics Assessment estimated that state average risk values of acetaldehyde, benzene, carbon tetrachloride, formaldehyde and polycyclic organic matter exceeded health benchmarks in every state in New England.		

Table 3a Area of Concern	Commentors	Relevant Comments	Response
Ambient Air Quality Impact Analysis	Donald Carr, Springfield	1)"I ask you to re-examine the ambient air quality analysis for this facility particularly since Solutia, Mt. Tom and the Springfield municipal combustor in Agawam are so close by." Solutia is the fourth worst polluter in MA.	<p><b>Cumulative Impacts Modeling-</b> Many comments have expressed concern that certain existing sources, or proposed future sources, of emissions were not properly included in the ambient air quality modeling analysis. The facility emission concentrations plus background concentrations (as discussed in Table 1a above), showed compliance with the NAAQS. These results have been presented in Table 2 of the non-major comprehensive plan approval.</p> <p>PRE conducted the ambient air quality modeling analysis in accordance with EPA's 40 CFR Appendix W to Part 51 - Guideline on Air Quality Models which is required for all modeling analyses. Using these guidelines, the model determines a maximum modeling concentration for comparison to the EPA significant impact levels (SILs) for Class II areas. MA is classified as a Class II area according to EPA.</p> <p>SILs can be used to evaluate whether impacts due to facility emissions are "significant", therefore requiring a detailed modeling analysis. Additionally, the SILs are numerical values that represent thresholds of insignificant, i.e., <u>de minimis</u>, modeled source impacts. If the modeled concentrations are below the SILs, the proposed facility is considered to be in compliance with the NAAQS. If the modeled concentrations are at or above the SILs and the proposed allowable emissions from the new facility are less than significant for that pollutant, the predicted air quality impacts from the new facility should be added to representative background levels and compared to applicable NAAQS. If maximum predicted impacts are at or above applicable SILs and the proposed allowable emissions from the new facility are significant for that pollutant, the predicted air quality impacts from the new facility, along with predicted air quality impacts from nearby existing interacting sources, should be added to representative background levels and compared to applicable NAAQS.</p> <p>In the case of PRE, the predicted modeled impacts for all criteria pollutants were less than the applicable SILs; therefore, the facility is in compliance with the NAAQS and no further modeling, including modeling with interacting sources, is required since the modeling concentrations, in and of themselves, are considered to be insignificant modeled source impacts. However, PRE went a step further by conducting a cumulative impact analysis of the representative background concentrations added to the modeled concentrations and compared them to the applicable NAAQS.</p>
	Tim Allen, Springfield City Council	2) All modeling should be based on current air and not pristine air.	
	Sylvia Broude, Toxics Action Center	3)The cumulative impacts must take into account the current conditions in Springfield as well as the existing Palmer Paving facility.	
	Glen Ayers, Leverett	4) PRE has avoided disclosing impacts of entire plant.	
	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society, Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition, Geoff Brown-RN South Deerfield	<p>5)DEP should re-review modeling and emissions standards using a higher, more reasonable moisture content of the proposed fuel. This single, potentially unsupportable, assumption of average 40% moisture content drives the entire assessment process.</p> <p>6) Using the maximum 24-hour average for PM2.5 and CO for modeling ignore the shorter time frame of biological effect and local daily meteorological activity. 24-hour averaging of many pollutants is not health protective. Hourly measurements should be used for all pollutants, and apply relevant limits to those measurements.</p>	
	Claudia Hurley, Westfield	7) The PRE health assessment fails to properly calculate cumulative impacts.	
	Susan Reid, CLF	<p>8) The cumulative impact assessment did not include Palmer Paving.</p> <p>9) The PRE anticipated emissions of ozone precursors such as NOx, VOCs and ammonia must be considered in the context of the cumulative impacts taken together with emissions from vehicle tailpipes.</p>	

Table 3b Area of Concern	Commentors	Relevant Comments	Response - continued
Ambient Air Quality Impact Analysis	Mary S. Booth, Ph.D., Pelham	<p>10) No cumulative modeling was done for metals and criteria pollutants and no cumulative modeling was done for all of the proposed biomass plants.</p> <p>11) Toxics are not monitored for background levels.</p>	<p>(continued from Table 3a) Again, the facility emission concentrations plus background concentrations (as discussed in Table 1a above), showed compliance with the NAAQS. These results have been presented in Table 2 of the non-major comprehensive plan approval.</p> <p><b>Ambient Air Quality Modeling Analysis-</b> Palmer Renewable Energy, LLC was obligated to use the USEPA approved American Meteorological Society/ EPA Regulatory Model (AERMOD) for their air quality computer dispersion modeling analysis. According to the EPA, AERMOD employs best state-of-practice parameterizations for characterizing the meteorological influences and dispersion. The AERMOD atmospheric dispersion modeling system incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. It is an integrated system that includes three modules:</p> <ol style="list-style-type: none"> <li>1. A steady-state dispersion model designed for short-range (up to 50 kilometers) dispersion of air pollutant emissions from stationary industrial sources.</li> <li>2. A meteorological data preprocessor (AERMET) that accepts surface meteorological data, upper air soundings, and optionally, data from on-site instrument towers. It then calculates atmospheric parameters needed by the dispersion model, such as atmospheric turbulence characteristics, mixing heights, friction velocity, Monin-Obukov length and surface heat flux.</li> <li>3. A terrain preprocessor (AERMAP) whose main purpose is to provide a physical relationship between terrain features and the behavior of air pollution plumes. It generates location and height data for each receptor location. It also provides information that allows the dispersion model to simulate the effects of air flowing over hills or splitting to flow around hills.</li> </ol> <p>AERMOD also includes PRIME (Plume Rise Model Enhancements) which is an algorithm for modeling the effects of downwash created by the pollution plume flowing over nearby buildings.</p> <p>Some of the primary features and capabilities of AERMOD are:            *Source types: Multiple point, area and volume sources            *Source releases: Surface, near surface and elevated sources            *Source locations: Urban or rural locations. Urban effects are scaled by population.            *Plume types: Continuous, buoyant plumes            *Plume deposition: Dry or wet deposition of particulates and/or gases            *Plume dispersion treatment: Gaussian model treatment in horizontal and in vertical for stable atmospheres. Non-Gaussian treatment in vertical for unstable atmospheres</p>
	City of Springfield	12) Additional air modeling should be done to demonstrate the Project meets NAAQS standards under other typically analyzed operating scenarios, less than 100% load. These conditions could result in higher pollutant concentrations at receptor locations.	

Table 3c Area of Concern	Response - continued
Ambient Air Quality Impact Analysis	<p>(continued from Table 3b)</p> <ul style="list-style-type: none"> <li>*Terrain types: Simple or complex terrain</li> <li>*Building effects: Handled by PRIME downwash algorithms</li> <li>*Meteorology data height levels: Accepts meteorology data from multiple heights</li> <li>*Meteorological data profiles: Vertical profiles of wind, turbulence and temperature are created</li> </ul> <p><b><u>PM2.5 and CO Modeling Averaging Times</u></b> – It was commented that using a 24-hour averaging time for PM2.5 and CO modeling ignores shorter time frames of biological effects and local daily meteorological activity and is not health protective. The modeling averaging times used for PM2.5 and CO were in compliance with EPA’s NAAQS and EPA’s 40 CFR Appendix W to Part 51 - Guideline on Air Quality Models which require a 24-hour average and annual average for PM2.5 as well as a 1-hour average and an 8-hour average for CO. The NAAQS does not have a 24-hour average for CO. The NAAQS, as discussed in Table 2a, are established by the US EPA for the purpose of protecting the most sensitive persons in the population, including people with diseases (e.g. asthma, cardiovascular disease, etc.), children and the elderly, with an adequate margin of safety as stated in the Clean Air Act (CAA). MassDEP has also established emission limitations for PM2.5 and CO which will be protective of the NAAQS averaging times.</p> <p><b><u>Toxics Health Thresholds (AALs and TELs)</u></b> - Several comments have stated that background levels for toxics are not incorporated into the air quality model or that some toxics exceed background health thresholds. This response will explain how the Allowable Ambient Limit (AAL) and the Threshold Effects Exposure Limit (TEL) concentrations for non-criteria pollutants were established by MassDEP, how they are applied and why they are considered to be health protective.</p> <p>It is true that MassDEP’s protocol for facility permit evaluations does not include background levels for toxics, because of the lack of data on background levels of air toxics. (However, it should be noted that the AALs and TELs take into account that people may be exposed to a chemical from other sources, including air, food, soil, and water.) MassDEP followed its long standing protocol when it evaluated the PRE facility. The protocol is explained in the MassDEP Division of Air Quality Control (DAQC) “Air Toxics Implementation Update” (August, 1989). This Update states that DAQC requires new or modified sources of air contaminants to demonstrate the application of Best Available Control Technology (BACT), and assess, through computer modeling, the ambient concentrations caused solely by that source’s emissions. These modeled concentrations are then compared to the AAL to determine whether there may be potentially unacceptable risks associated with that particular source. As noted above and shown in the amended Table 5-8 of the non-major comprehensive plan approval application dated December 3, 2010, the maximum modeled 24-hour and annual concentrations for each non-criteria pollutant are below all applicable MassDEP TELs and AALs.</p> <p>MassDEP developed the Chemical Health Effects Assessment Methodology and the Method to Derive Allowable Ambient Limits (CHEM/AAL) to develop ambient air toxics exposure limits. The CHEM/AAL methodology was built upon occupational literature along with other sources of information to identify and evaluate the potential adverse health effects of chemicals and to develop chemical-specific ambient air limits. MassDEP updated its methods in 2010 following a scientific peer review of the revised protocol. The new method makes use of existing peer reviewed air guidance levels developed by the USEPA, CalEPA and others. The protocol continues to consider cancer and non-cancer health effects.</p> <p>To determine the AALs and TELs, MassDEP first develops:</p> <ul style="list-style-type: none"> <li>• Non-Threshold Effects Exposure Limits (NTELEs) based on known or suspected carcinogenic health effects associated with a one in a million excess lifetime cancer risk over a lifetime of continuous exposure; and</li> <li>• Threshold Effects Exposure Limits (TELEs) based on non-cancer health effects of individual chemicals. The TEL is a concentration intended to protect the general population, including sensitive populations such as children, from adverse health effects over a lifetime of continuous exposure. TELEs take into account the fact that people may be exposed to a chemical from other sources, including indoor air, food, soil and water.</li> </ul>

Table 3d Area of Concern	Response - continued
<b>Ambient Air Quality Impact Analysis</b>	<p>(continued from Table 3c)</p> <p>MassDEP’s Office of Research and Standards (ORS) compares the NTEL and the TEL and designates the lower concentration as the AAL. Since, in general, NTELS are lower than TELs, most AALs are based on the NTEL, or risk of excess cancer. For chemicals that do not pose cancer risks, the AAL is based on the TEL, and in this case the published AAL and TEL values are the same. The main use of AALs and TELs is for permitting certain facilities that must meet MassDEP air guidelines. The AALs are compared to annual average concentrations and the TELs are compared to 24 hour average concentrations. Both AALs and TELs must be met at the facility’s property line.</p> <p>The MassDEP Air Toxics program specifies that the TEL and AAL should be used together to protect the public from experiencing both threshold and non-threshold health effects as a result of exposure to these chemicals. They are used to evaluate the potential emissions from certain facilities that may cause a condition of air pollution.</p> <p>It should be noted that exposure above an AAL or TEL does not automatically mean an individual will develop cancer or experience non-cancer health effects. However, the risk of developing adverse effects increases with frequency and intensity of exposure.</p> <p><b><u>Modeling for Typical and Low Load Conditions</u></b>                      It was commented that additional air modeling should be done to demonstrate the Project meets NAAQS standards under other typically analyzed operating scenarios, less than 100% load. Partial load conditions of 75% and 50% were modeled in the original application dated November 20, 2008 and the 100% load was found to be worst case. The stack velocity is reduced at partial load, but the emissions are also reduced and the emission reduction outweighs the reduction in dispersion.</p> <p><b><u>Fuel Moisture Content Effects on Air Contaminant Emission Rates</u></b> See response in Table 7a below for fuel moisture content effects on air contaminant emission rates</p>

Table 4 Area of Concern	Commentors	Relevant Comments	Response
<b>Plant Location</b>	Donald Carr, Springfield  Richard S. Stein, Goessmann Professor Chemistry, Emeritus, UMASS  Roger Remy, Ludlow  Marie Koski, East Springfield Neighborhood Council  Bill Rooney, Board of Selectman of Ludlow	1) "Hampden County is densely populated with 751 persons per square mile. This is not a sensible location for such a facility."  2) Biofuel powered plants should be located close to sources of biomass to avoid excessive transportation costs.  3) "Bad project located in the very wrong place."  4) Not a good location for the project.  5) Project is in the wrong place.	The plant location is a nonjurisdictional issue however it has been addressed under the Massachusetts Environmental Policy Act (MEPA) review process as discussed in the following paragraph.  <b><u>Alternative Site Selection</u></b> –Palmer Renewable Energy LLC focused on two sites owned by Palmer Paving Corporation. Palmer Paving owns the proposed site as well as another paving and sand and gravel operation at 25 Blanchard Street in Palmer, MA. Both sites have good proximity to transmission lines suitable for interconnection. The Springfield site has better highway access since trucks will not need to go through town as they would with the Palmer site. Both sites are zoned for industrial use; however, the Palmer site was not viable as it does not have 7 contiguous acres available.

Table 5			
Area of Concern	Commentors	Relevant Comments	Response
Emissions from Trucks	Donald Carr, Springfield	1) "The large amount of trucks going into Springfield will contribute to the environmental damage. This needs to be considered as part of an environmental impact study."	<p>MassDEP is aware of the public's concern regarding the air contaminant emissions from truck traffic. The review of a facility's air quality non-major comprehensive plan approval application is regulated pursuant to 310 CMR 7.02(1)(b) and 310 CMR 7.02(5) and is limited to regulating emissions from stationary sources. Although not required by the air quality comprehensive plan approval, the air contaminant emissions from truck traffic at the plant were included in the NPC, Appendix F - Mobile Source Analysis. Existing air contaminant emissions from traffic are represented in the background of the ambient air quality impact analysis. The Mobile Source Analysis determined that the plant will neither cause nor contribute to a violation of the National Ambient Air Quality Standard in terrain surrounding the site.</p> <p>In addition, the Special Terms and Conditions, condition #28 of the non-major comprehensive plan approval requires that wood fuel deliveries and lime silo loading shall be limited to the hours of 6AM through 7PM and the operation of the front end loader and wood grinding operation shall be limited to the hours of 6AM through 10PM.</p> <p>Individual trucks that are too noisy (failed mufflers) or emit excessive smoke (high opacity) would be in violation of MGL C. 90 s. 7A. Individual trucks or any motor vehicle which are unnecessarily idling for longer than 5 minutes would be in violation of M.G.L. Chapter 90, Section 16A and DEP regulation 310 CMR 7.11(1)(b). Local and State police, in addition to MassDEP, are charged with enforcing these motor vehicle laws. Nuisance conditions (noise and dust, etc.) on the site related to non-road vehicles are regulated by MassDEP under 310 CMR 7:00 (condition of air pollution) or by the Board of Health under MGL C. 111 s. 122.</p>
	Francis G. Ryan, Secretary, East Forest Park Civic Association	2) Concerns over the increase in tractor trailer truck and their subsequent exhaust fumes and heavy traffic	
	Ben Rajotte – Haverhill, STIS Attorney	3) The plant will increase traffic.	
	Dr. Sylvia Brandt, Assoc. Prof for Public Policy and Admin. and the Dept of Resource Economics At UMASS	4) The traffic from trucks delivering fuel will increase the number of asthma cases in the area.	
	Curt Mansfield, Springfield	5) 150 trucks per day also pollute.	
	Linda E. Blake	6) The project will have large truck trafficking.	

Table 6			
Area of Concern	Commentors	Relevant Comments	Response
Deforestation Impacts	Edward L. Golding Ph.D. Senior Lecturer, UMASS	1) "...the significant commercial harvesting of wood from naturally forests areas associated with proposed biomass plants will adversely effect the productivity and biodiversity of our state's forests. Natural biogeochemical and hydrologic cycles will be altered, habitats will be damaged by machinery, and the attractiveness of much of our landscape will be compromised. ...Harvesting of so-called "waste wood" will offer few of those benefits while exacting a high and on-going environmental cost."	Timber harvesting plans must first be approved by MA Department of Conservation and Recreation (DCR).  Additionally, MassDEP has established several restrictions/limitations in order to ensure that PRE receives only clean wood fuel supplied only from non-forest derived wood materials, see response in Table 10a.
	Richard S. Stein, Goessman Professor of Chemistry, Emeritus, UMASS	2) Biomass sources are not sufficient for most large facilities to economically operate with sustainable harvesting. They should not consume biomass at a faster rate than its replacement regrowth. An approval should entail such a requirement to avoid depletion of biomass resources.	
	Charlotte Burns	3) There has been massive deforestation for the wood pellet industry. Our forests, animal habitats and recreation areas will feed the hungry biomass plants.	

Table 7a Area of Concern	Commentors	Relevant Comments	Response	
Air Contaminant Emission Rates	Chris Matera – Mass Forest Watch	1)Not only will PRE plant emit more CO2 per unit of energy produce than the Mt Tom coal plant down the road, it will emit higher rates of particulate which are responsible for numerous public health problems.	<p><b><u>Mt. Tom CO2 and PM Emission Rates</u></b> – Several comments stated that PRE will emit more particulate matter than Mt. Tom, a 1,480 MMBtu/hr coal-fired plant. CO2 emission rates per unit of energy will be higher than Mt. Tom but the PM emission rates will not be higher than Mt. Tom.</p> <p>According to Mt. Tom’s Air Quality Operating Permit# 1-O-95-028, the allowable filterable particulate matter emission rate from the riley stoker boiler is 0.08 lb/MMBtu and there are no current limits for PM10 or PM2.5. Based on Mt. Tom’s boiler’s maximum heat input rate of 1,480 MMBtu/hr and 8760 hours per year of operation, the maximum allowed PM emission rate would be 518.59 tons per year. In comparison, PRE has a maximum allowable filterable PM emission rate of 0.008 lb/MMBtu and 17.84 tons per year. PRE also has a maximum allowable total PM-10 emission rate of 0.015 lb/MMBtu and 33.44 tons per year. Therefore, the particulate matter emissions from PRE, both the emission rates and the total allowable emissions, are not even close to the allowed particulate matter emissions for Mt. Tom.</p> <p><b><u>Fuel Moisture Content Effects on Air Contaminant Emission Rates</u></b> MassDEP acknowledges that the moisture content of wood is variable which directly effects its energy content. Due to variable heating values in wood fuel, the maximum firing rate of the fuel in pounds per hour will vary, as is the case when combusting any fuel which has a variable energy content. However, combustion units, such as PRE’s proposed boiler, have a designed maximum heat input capacity (million British thermal units per hour). This is the maximum heat value an affected source can combust on a steady state basis as determined by its physical and operational design. In the case of PRE, the designed maximum heat input capacity is rated by the boiler manufacturer at 509 million British thermal units per hour (MMBtu/hr). PRE also has a maximum annual (12 consecutive month) wood fuel throughput limitation which was based on a maximum theoretical firing rate (509 MMBtu/hr). The boiler’s maximum heat input capacity and maximum 12 consecutive month wood fuel throughput, which not only limit the air contaminant emissions being emitted to the atmosphere, but also limit how much wood can be fired in the boiler, are limitations contained in the non-major comprehensive air quality plan approval.</p> <p>The approved short-term air contaminant emission rates for PRE are in units of pounds of pollutant per million Btu (lb/MMBtu) of heat input.</p>	
	Richard S. Stein, Goessmann Professor Chemistry, Emeritus, UMASS	2) Emission standards are needed to avoid pollution.		
	Chrisoula Marangoudakis, Longmeadow	3)“...PRE produced figures just squeezing below allowable limits for air contaminants to be released from the plant warrants some suspicion. There are just numbers and not “real” figures.” 4)“State emissions standards are too high and should be reduced.”		
	Steven Dzubak, Springfield	5)“The incinerator should be made to use the same particulate matter technology that the Mt. Tom Coal Plant in order to decrease the particulate matter emissions. It is unacceptable that a coal plant can produce less particulate matter emissions while producing more energy than a wood burning incinerator.”  6)The review and modeling should be redone using higher moisture content than 40% for the wood supply. Green wood moisture content is often higher than 50%.		
	Susan Reid, CLF	7)Draft PA does not reflect BACT for CO and VOCs. 12-month averaging times for certain pollutants are not protective of short-term spikes. Concerned with how the draft PA addresses ozone precursors.  8)Both the Department and the EPA have determined that the existing standards, a 24-hour standard of 35 µg/m <sup>3</sup> and an annual standard of 15 µg/m <sup>3</sup> are inadequate to protect public health. Instead, the Department determined that a 24-hour PM2.5 standard of 30 µg/m <sup>3</sup> and an annual of PM2.5 standard of 12 µg/m <sup>3</sup> are necessary to protect public health across the region.  9) The operation of the plant resulted in 99.6% of the Department’s recommended 24-hour standard and 88% of its recommended annual standard. This is a very thin margin of error for the vulnerable populations living in the area.		

Table 7b Area of Concern	Commentors	Relevant Comments	Response - Continued
Air Contaminant Emission Rates	Susan Reid, CLF	<p>10)PRE must tighten emission limits and monitoring. Pursuant to the BACT analysis for Brayton Point power plant in Somerset, the filterable limit for PM10 and PM2.5 should be set no higher than 0.01 lb/MMBtu (filterable) and 0.017 lb/MMBtu (filterable and condensable). Brayton fires coal not biomass, but uses fabric collectors like PRE so they should achieve the same level of pollution control.</p> <p>11) Concerned that the conditional approval appears to use a very broad range of fuel moisture content, from 30 to 50% despite the fact that increase fuel moisture content not only can significantly reduce the efficiency of the facility but also is likely to contribute to air pollution spikes. Air emissions from PRE should use the most conservative estimates (highest potential moisture content) with respect to the intersection of fuel moisture content and the facility's potential to emit.</p> <p>12)DEP did not explain how the ammonia limits would impact the background concentration of ammonia in the area. There is no explanation as to why the lowest achievable ammonia emissions rate was not chosen as required due to its status as an ozone precursor.</p> <p>13)VOCs and CO are ozone precursors and emission limits must reflect the lowest achievable emission rates. Existing permits show lower limits and DEP should either adopt those limitations. See Florida Biomass Energy, LLC, issued June 16, 2010; McNeil Electric Generating Station, issued April 21, 2008; and Permit for DG Whitefield, LLC –New Hampshire, issued July 23, 2007.</p> <p>14) DEP has established unreasonably and unlawfully long averaging times for determining compliance with emissions limitations. For example, using only a 1-hour and 12-month rolling average for NOx is inappropriate when NOx may contribute to ozone violation on a 1-hour and 8-hour average. DEP should include averaging times that are consistent with the NAAQS standards.</p> <p>15) "The Department also has failed to adequately address ozone precursors such as NOx and Ammonia..." The DEP failed to explain how the facility will affect the Commonwealth's current attempts to reach attainment of the existing Ozone NAAQS, much less how it will affect the Commonwealth's status under the new standard (0.060-0.070 ppm). The Department should have conducted an analysis of the facility's impacts on the new NAAQS proposed for ozone.</p>	<p>(continued from Table 7a)</p> <p>These are based on the use of best available control technology (BACT) pursuant to 310 CMR 7.02(8)(a). The use of a lb/MMBtu of heat input emission rate takes into account the heat input variability during the combustion of solid fuels. An additional short-term emission rate in units of pounds of pollutant per hour (lb/hr) was also established in order to provide a limitation during periods of operation at the maximum rated capacity of 509 MMBtu/hr.</p> <p>The annual emissions, in units of tons per year, were conservatively based on a maximum operation of 8760 hours per year at a maximum capacity of 509 MMBtu/hr. By establishing emission rates based on both the heating value of the fuel and on a limited maximum heat input value, as opposed to a mass based limit (lb of pollutant/ton of wood), the approval ensures meaningful emission limitations for combustion of a wood fuel with varying heat values. Therefore, the moisture will have no affect on stack emissions as the boiler is limited to 509 MMBtu/hr and the emission limits are in lb/MMBtu, so a slightly higher mass input of fuel due to slightly higher water content results in a lesser amount of steam output but does not affect emissions</p> <p>Compliance with the short-term and long-term emission rates will be verified through the use of continuous emission monitors, heat input rate monitoring and stack testing which are required pursuant to the non-major comprehensive air quality plan approval. The limitations on the boiler's maximum heat input capacity and fuel throughput further reinforce the air contaminant emission limitations.</p> <p><b>PM10 and PM2.5 NAAQS</b> -It has been commented that the 24-hour average PM2.5 emissions from the plant, including background, are close to the current NAAQS and will cause the PM2.5 24-hour NAAQS to be out of compliance more often. Table 2 of the Non-Major Comprehensive Plan Approval shows that the maximum modeled 24-hour PM2.5 concentration from the facility will be 0.51 microgram/m<sup>3</sup> or 1.46% of the 24-hour PM2.5 NAAQS. The maximum modeled 24-hour PM10 concentration from the facility will be 2.44 microgram/m<sup>3</sup> or 1.63% of the NAAQS.</p>

Table 7c			
Area of Concern	Commentors	Relevant Comments	Response - continued
Air Contaminant Emission Rates	Michaelann Bewsee, ARISE	16)The palmer plant added to background is at 29.9. The World Health Organization recommends 25 for fine particulate matter.	<p>(continued from Table 7b)</p> <p>In addition, the plants emissions of PM10 and PM2.5 are considered insignificant modeled source impacts since they are below the applicable significant impact levels (SILs) as discussed in Table 3b above for cumulative impacts modeling. Some comments express concern that the PM2.5 emission rates are close to the emission rates being considered by EPA as part of its pending revision of the PM2.5 standards. MassDEP supported these proposed limits, 24-hour PM2.5 standard of 30 µg/m<sup>3</sup> and an annual PM2.5 standard of 12 µg/m<sup>3</sup> as recommended by the Clean Air Act Scientific Advisory Committee, in light of evidence of the health impacts of fine particulate matter. EPA has not adopted new limits at this time. Although not required, a conservative analysis of the plant's PM2.5 impacts indicates that, when added to background, PM2.5 emissions are below a concentration of 30 µg/m<sup>3</sup> and an annual PM2.5 concentration of 12 µg/m<sup>3</sup>. Therefore, the source will not cause or contribute to a violation of the current NAAQS or the Clean Air Scientific Advisory Committee recommended PM10 or PM2.5 concentrations which are believed to be more protective.</p> <p><b>BACT</b> - A few comments stated that the VOC and CO emission rates were not reflective of BACT and that there are lower emission rates in the country. However no specific information for emission rates was provided to explain what BACT should have been. Based on these comments, lower VOC and CO emission rates were evaluated by MassDEP and PRE. After further technical review, PRE has proposed to lower the VOC emission rate from 0.01 lb/MMBtu to 0.005 lb/MMBtu based on the BACT review. The proposed VOC emission limit is equivalent to Schiller Station in New Hampshire which has the lowest VOC emission rate for any existing wood-fired power plant in the country. In addition, the proposed VOC emission rate is more stringent than the April 2007 MassDEP Best Available Control Technology Guidance – Biomass-Fired Electric Generating Units – Table 2.</p> <p>BACT for all air contaminant emissions, including HAPs, was fully evaluated for compliance with 310 CMR 7.02(8)(a). In addition, the emission limits which were established as BACT were made federally enforceable and practically enforceable in accordance with USEPA's June 13, 1989 Guidance on Limiting Potential to Emit in New Source Permitting. The emission limits are supported with operational limits as well as substantial testing, monitoring and recordkeeping requirements. PRE's BACT was also compared with other similar fuel type and sized sources contained in EPA's RACT/BACT/LAER Clearinghouse including Russell Biomass, LLC which is a similar sized facility that was issued a plan approval on December 30, 2008. Based on the proposed source, air pollution control devices and supporting information contained in the major comprehensive plan approval application, PRE should be more than capable of achieving compliance with the proposed emission limits.</p> <p><b>VOCs CO and Ammonia</b></p> <p>It was commented that VOCs, CO and ammonia must reflect the lowest achievable emission rates (LAER). None of these air contaminants are subject to the Emission Offset and Nonattainment Review requirements of 310 CMR 7.00, Appendix A which requires LAER.</p>
	Lee Ann Warner, Stop Toxic Incineration in Springfield	17) We are already close to the proposed EPA threshold for PM and already over the threshold for world health organization guidelines for PM.	
	Lucille Gionfriddo, Agawam	18) I suspect that the non-major source classification to be wrong and that the plant could well be major source of pollution.	
	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society, Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition, Geoff Brown-RN South Deerfield	19) DEP should re-review emissions standards using a higher, more reasonable moisture content of the proposed fuel.	

Table 7d			
Area of Concern	Commentors	Relevant Comments	Response - continued
Air Contaminant Emission Rates	Timothy S. McLellan, Chicopee City Council	20) Tons of particulate matter and ozone precursors, will bring Hampden County close to EPA limits on these emissions.	<p>(continued from Table 7c) CO and ammonia are not subject since they are neither ozone precursors nor are they pollutants for which MA is in nonattainment. VOCs are not subject either since the facility is below the applicable emission threshold of 50 tons per year for nonattainment review requirements. Even though VOCs, CO and ammonia are not subject to LAER, they are still subject to and must comply with BACT pursuant to 310 CMR 7.02(8)(a). The emission rate limitations established for VOCs, CO and ammonia have been determined to comply with BACT.</p> <p>The 12 consecutive month average for CO of 0.0365 lb/MMBtu was determined during the BACT review. The lower annual average CO emission rate is due to the fact that the longer averaging time allows for the short term CO emission rate spikes to be normalized. Therefore, it is not necessary to allow for a higher emission rate over the entire year when the control device is capable of achieving lower emission rates over the course of 12 months.</p> <p><b>Major Facility</b> It has been commented that the plant is likely a major source as that term is defined in 310 CMR 7.00. According to the non-major comprehensive plan approval application, PRE is not a major facility for any air contaminant since none of the proposed emissions, for which they have requested federally enforceable limitations, will exceed any of the applicable emission major thresholds. The emission limitations have been reinforced by means of limiting the HAP contents of the fuel being supplied, limiting the fuel throughput and the maximum heat input rate as well as establishing supporting/compliance demonstrating monitoring, testing and recordkeeping conditions. Therefore, the facility will not exceed major source thresholds.</p> <p>Regardless of whether the facility is major or minor, it must still comply with BACT, which is an emission limitation based on the maximum degree of reduction of any regulated air contaminant emitted from any regulated facility which MassDEP, on a case-by-case basis taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility. BACT may also include a design feature, equipment specification, work practice, operating standard or combination thereof. As discussed further in the non-major air quality comprehensive plan approval, the facility's BACT review establishes emission limitations to ensure major source thresholds will not be exceeded.</p>
	Mary S, Booth, Ph.D., Pelham	<p>21) Palmer will emit 3 times more particulate matter emissions than Mt. Tom (.0059 lb/MMBtu). If this was a larger plant and emitted more particulate the federal government would require the PM emissions to be held to a more stringent standard which is one tenth of what's currently permitted. DEP could require the most stringent PM standard as recognized by federal regulation.</p> <p>22) MA is on record as saying the current standard for PM is not protective and a standard 30 <math>\mu\text{g}/\text{m}^3</math> is more protective than 35 <math>\mu\text{g}/\text{m}^3</math>. The modeling shows this plants PM concentration will be on average 29.9 <math>\mu\text{g}/\text{m}^3</math> so basically out of attainment with the new standard if EPA gets around to approving it. .</p> <p>23) Estimate of CO emissions (0.0365 lb/MMBtu annual average) does not appear to be supported by the analysis</p>	
	Dr. Sylvia Brandt, Assoc. Prof for Public Policy and Admin. and the Dept of Resource Economics At UMASS	24) Palmer Renewable's claims about the levels of emissions are questionable, if not disingenuous.	
	Sylvia Broude, Toxics Action Center	<p>25) The pollution controls are not BACT for VOCs or CO since there are lower emission rates elsewhere in the Country.</p> <p>26) EPA is working on a new set of limits for PM2.5, the new limits will still be nowhere near protective enough, MassDEP should adopt the World Health Organization Standards.</p> <p>27) Permit relies heavily on 12-month averaging times for pollutants. Averaging times of 30 days or less should be adopted with very strict 24-hour limits as well.</p>	
	Jesse Lederman, McKnight Neighborhood Youth Council	28) The plant will be dirtier than Mt. Tom.	
	Linda E. Blake	29) The pollutants from the plant will be 50% dirtier than coal.	

Table 7e Area of Concern	Commentors	Relevant Comments	Response - continued
<b>Air Contaminant Emission Rates</b>	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society, Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition, Geoff Brown-RN South Deerfield	<p>30)PRE should be required to use emissions control technology that control particulate matter at the same level as required for Mt. Tom coal-fired generator.</p> <p>31)Using the maximum 24-hour average for PM2.5 and CO for emissions cap calculations ignores the shorter time frame of biological effect and local daily meteorological activity. The permit should apply relevant limits to those measurements.</p> <p>32) The region is currently well over the EPA limit for several pollutants (acetaldehyde, benzene, carbon tetrachloride, formaldehyde, and polycyclic organic matter (POM)).</p> <p>33)The developer avoided more stringent regulations because of non-major polluter status.</p>	<p>(continued from Table 7d)</p> <p><b>Emission Rate Averaging</b></p> <p>It has been commented that air contaminant emission rate averages ignore shorter time frames of biological effect and local daily meteorological activity. Each criteria pollutant that may be emitted from PRE has an associated emission limitation with an applicable averaging time, such as 1-hour, 3-hour, 24-hour, etc. that is intended to be protective of the applicable health-based NAAQS standard for which it was modeled against. The averaging time of the applicable criteria pollutant emission rate must be as stringent as the NAAQS applicable averaging time for health protection purposes. The air contaminant emission rate average times contained in the non-major comprehensive plan approval reflect the applicable NAAQS averaging time.</p> <p><b>Ozone</b></p> <p>A few comments expressed concern that ozone had not been analyzed or that there were concerns with how ozone precursors were addressed. According to EPA, Ozone (O<sub>3</sub>) is a gas composed of three oxygen atoms.</p> <p>It is not usually emitted directly into the air, but at ground-level is created by a chemical reaction between oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOC) in the presence of sunlight and warm temperatures. Therefore, ozone is not emitted from PRE's exhaust stack but the creation at ground-level is minimized by limiting PRE's ozone precursor emissions of NO<sub>x</sub> and VOCs. CO and ammonia are not ozone precursors as some have stated. In PRE's case, the stack emissions of NO<sub>x</sub> and VOCs have been minimized and regulated in accordance with BACT which is discussed above in Table 7c.</p> <p>Ozone concentrations in Massachusetts have declined significantly since the 1980s in response to numerous State and EPA regulations that have significantly lowered emissions of VOCs and NO<sub>x</sub>, which contribute to ozone formation.</p> <p>Ozone trend data showing the decline in ozone concentrations in Massachusetts through 2008 is available on MassDEP's web site. (<a href="http://www.mass.gov/dep/air/aq/aq_ozone.htm">www.mass.gov/dep/air/aq/aq_ozone.htm</a>) MassDEP's 2009 Annual Report, available on MassDEP's web site, shows the downward trend in ozone concentrations continuing in 2009. (<a href="http://www.mass.gov/dep/air/priorities/aqreports.htm#aqrept">www.mass.gov/dep/air/priorities/aqreports.htm#aqrept</a>. The 2010 Annual Report will be posted in mid-June.) MassDEP's periodic emissions inventories of ozone precursors document the significant reductions in VOC and NO<sub>x</sub> emissions from Massachusetts sources that have taken place since the 1980s. Periodic emissions inventories are available at <a href="http://www.mass.gov/dep/air/priorities/aqdata.htm">www.mass.gov/dep/air/priorities/aqdata.htm</a>.</p>
	Claudia Hurley, Westfield	<p>34)Apparently, even better pollution control devices are available, because the NPC mentions them in connection with utility poles as an alternative fuel source. If there are better pollution controls, why doesn't DEP require PRE to use them to protect people and air.</p> <p>35)The wood fuel is underestimated at between 30% and 50% water. The actual content is estimated to be closer to 45%-50%. Why doesn't MA require PRE to dry the wood source.</p>	
	Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, M-Pioneer Valley Asthma Coalition	36)Wood moisture contents of 30%-50% are too low. Moisture effects the efficiency of the plant, CO <sub>2</sub> emissions and the number of tons required to fuel the plant.	
	Margaret Sheehan, Esq., Biomass Accountability Project	<p>37) PRE evaded counting fugitive emissions in its emissions calculations for PSD NSR purposes.</p> <p>38) There are no known safe limits for dioxin. The permit should require zero dioxin emissions.</p> <p>39) "PRE is a major stationary source under the Clean Air Act, and the permit should be redone to comply with the NSR PSD program for major stationary sources."</p>	

Table 7f			
Area of Concern	Commentors	Relevant Comments	Response -continued
Air Contaminant Emission Rates	John Miller, Springfield	<p>40) In Feb. 2009, the US Court of Appeals concluded that the EPA failed to explain how the 24-hour exposure level for PM<sub>2.5</sub> of 35 µg/m<sup>3</sup> would provide appropriate protection from the health effects associated with exposure with any margin of safety so it was remanded back to EPA. There is no safe limit on particulate inhalation.</p> <p>41) The background level combined with PRE's emissions will be at 29.9 µg/m<sup>3</sup> when you compare this with the 30 µg/m<sup>3</sup> that EPA wants to set, it is too close for comfort, and there is no margin of safety.</p> <p>42) If the moisture content of wood supply is higher than the 35-40% PRE used for their calculations, they will have to burn more wood which means more pollution.</p> <p>43) Proposed PM emissions for PRE will be higher than the Mt. Tom coal plant by ~322%. Mt. Tom average PM was 0.0059 lb/MMBtu and PRE's PM level is 0.019 lb/MMBtu.</p>	<p>(continued from Table 7e) Despite the downward trends in emissions of VOCs and NO<sub>x</sub> and in ozone concentrations in Massachusetts, Western and Eastern Massachusetts have remained ozone nonattainment areas as EPA has continued to adopt stricter, more health protective National Ambient Air Quality Standards (NAAQS) for ozone. Massachusetts does not meet the ozone NAAQS of 0.075, which was adopted in 2008, and EPA is expected to adopt a more stringent standard in 2011. To address these more health protective standards, MassDEP and EPA are continuing to adopt additional controls on sources of VOCs and NO<sub>x</sub> to further reduce ozone levels.</p> <p>A significant portion of the ozone pollution in Western Massachusetts is the result of transport of air pollutants from states that are upwind of Massachusetts. EPA has proposed regulations that will require upwind states to reduce their NO<sub>x</sub> emissions from large power plants in 2012. MassDEP is advocating for EPA to require even greater NO<sub>x</sub> reductions in upwind states, which will be needed for Western Massachusetts to attain the stricter ozone standard that EPA is expected to adopt in 2011.</p> <p>The PRE project emissions of VOCs and NO<sub>x</sub> would have a negligible impact on ozone concentrations. The project's maximum potential annual emissions after controls are 11.15 tons per year of VOCs and 37.9 tons per year of NO<sub>x</sub>. These emissions constitute a minimal contribution to the overall emissions of VOCs and NO<sub>x</sub> in Western Massachusetts. The 2008 MassDEP Emissions Inventory estimate of total annual NO<sub>x</sub> emissions in Western Massachusetts (Hampden, Hampshire, and Berkshire counties) is 22,074 tons per year (16,804 tons of which are from cars, trucks, and off-road vehicles). The 2008 total estimated annual VOC emissions in Western Massachusetts are 25,544 tons per year.</p>
	City of Springfield	<p>44) Approval should identify how the heavy metal limits were developed and add a heavy metal limit for copper.</p> <p>45) Approval should identify measures to monitor and mitigate potential odor problems.</p>	<p>In addition, PRE has voluntarily agreed to annually obtain mass-based NO<sub>x</sub> emission reduction credits to offset every ton of NO<sub>x</sub> emitted during the ozone season from May 1 through September 30. These offsets will be purchased by PRE and then transferred to DEP to be retired at the end of each calendar year for the benefit of the environment.</p> <p><b>Fugitive Particulate Matter Emission Calculations</b> A comment suggested that PRE did not include fugitive emissions for the purposes of evading prevention of significant deterioration new source review. PRE did calculate and included fugitive PM, PM<sub>10</sub> and PM<sub>2.5</sub> emissions for their facility. Even with these emissions included, the facility is not close to triggering the 250 ton per year threshold for PSD applicability.</p>

Table 7g			
Area of Concern	Commentors	Relevant Comments	Response -continued
Air Contaminant Emission Rates	Ben Rajotte, Haverhill	46)The projects impacts have not been analyzed, already in nonattainment and unsafe. The plant will interfere with the attainment of ozone standards. There has been no analysis within this permit that compares and links up PRE's projected emissions of ozone precursors specifically in order to assess whether the PRE project, once constructed, will interfere with the area's attainment of the air quality standard for ozone, or it will inhibit maintenance of the borderline air quality standard for particulates.	<p>(continued from Table 7f)</p> <p><b><u>Dioxin/Furan Emissions</u></b> It has been commented that any amount of new emission of dioxin/furan is unhealthy. However, the AALs and TELs are emission concentration thresholds established by MassDEP to be health protective from toxicity of non-criteria pollutants for the general population, including sensitive members and children. As shown in Table 5-8 of the non-major comprehensive plan approval application dated September 30, 2010 (amended December 3, 2010), the maximum modeled 24-hour and annual concentrations for each non-criteria pollutant are below all applicable MassDEP TELs and AALs. Therefore, the plant will not have an adverse effect on public health or welfare in the area.</p> <p><b><u>Heavy Metal Limits</u></b> It was commented that the approval should identify how the heavy metal limits were developed. The non-major comprehensive plan approval contains this information on page 23 of Section H. which states that: " The physical and chemical characteristics of green wood as well as the combustion of these fuels and the associated HAP emissions from the facility have been based on several sources such as:</p> <ul style="list-style-type: none"> <li>• EPA AP-42, Fifth Edition Compilation of Air Pollutant Emission Factors, Section 1.6, Wood Residue Combustion in Boilers, Update September, 2003.</li> <li>• Major Comprehensive Plan Approval Plan Approval # 1-P-05-046 for Russell Biomass, LLC, issued December 30, 2008.</li> <li>• Phyllis, database for biomass and waste, <a href="http://www.ecn.nl/phyllis">http://www.ecn.nl/phyllis</a>, Energy Research Centre of the Netherlands"</li> </ul> <p><b><u>Copper</u></b> A comment stated that a heavy metal limit for copper should be added. The emission rate for copper was included in Table 4-6 of the non-major comprehensive plan approval application dated September 30, 2010 (amended November 30, 2010) and was modeled against the AAL and TEL. However, copper is not a HAP and any potential contamination from pressure treated lumber would be identified by arsenic and chromium limits which have been established in the non-major comprehensive plan approval. (Note that C&amp;D wood, including pressure treated lumber, is not allowed to be accepted at the facility.)</p> <p><b><u>Wood Fuel Odors</u></b> – See response in Table10b below for concerns regarding odors from the wood fuel storage area.</p>

<b>Table 8</b>			
<b>Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response</b>
<b>Lead Emissions</b>	Glen Ayers, Leverett	1)The stack is immediately toxic. The plant will emit 90 pounds of lead per year. There should be no lead and there is no safe level. PRE has avoided disclosing impact of entire plant. Proper mitigation measures must be developed that will reduce the overall community lead impact.	<p>The potential lead emission rate of 89.18 pounds per year from PRE is .67% of the TEL and 0.09% of the AAL. The lead emissions are also being controlled consistent with best available control technology by the use of a combination of add-on control devices consisting of a dry scrubber in conjunction with a fabric collector. PRE has proposed that these control devices will have a combined metal HAP removal efficiency of 99% or greater depending on the specific HAP. The metal HAP removal efficiency of 99% or greater also meets the April 2007 MassDEP Best Available Control Technology Guidance – Biomass-Fired Electric Generating Units – Table 2 and the lead emission rates do not exceed any of the applicable MA AALs or TELs. The AALs and TELs are health-based ambient air toxic guidelines. Therefore, the emission of lead from PRE will not contribute to a condition of air pollution. The lead emission rates will be verified by regular wood fuel tests as well as initial and annual stack testing.</p> <p>Also see the Lead Response in Table 1c.</p>

Table 9a Area of Concern	Commentors	Relevant Comments	Response
Air Quality Monitoring	Steven Dzubak, Springfield	1)The permit should require hourly monitoring of criteria pollutants.	<b>Hourly Monitoring</b> – The facility will have continuous emission monitors for NOx, CO, SO2 and PM. These monitors will calculate the actual lb/hr emitted every hour of operation.
	Margaret Sheehan, Esq., Biomass Accountability Project	2) The permit should require a dioxin CEM and a mercury CEM which should be streaming live on a website that is publicly available.	<p><b>Dioxin/Furan CEM</b> - Dioxin/furans are formed by burning chlorine-based chemical compounds with hydrocarbons. In the case of PRE, only clean wood fuel is being fired in the boiler which minimizes the creation of dioxin/furans by preventing chlorine containing materials from being burned. Any small amount of dioxin/furans that may be formed would be controlled through the use of the oxidation catalyst. In addition, the use of a dioxin/furan CEM is not a regulatory requirement for any wood-fired boiler. Therefore, a dioxin/furan CEM will not be required but the facility will be stack tested annually for dioxin/furans.</p> <p><b>Mercury CEM</b> – Mercury emissions to the atmosphere are directly related to the mercury content of the fuel. In the case of PRE, only clean wood fuel is being fired in the boiler which minimizes the amount of mercury that can be emitted to atmosphere. PRE also has a fuel specification for mercury to ensure that only clean wood fuel is being fired in the boiler. Unannounced quarterly testing for heavy metals, including mercury, will be conducted at wood fuel suppliers and weekly testing will be done at PRE. In addition, the use of a mercury CEM is not a regulatory requirement for any wood-fired boiler. Therefore, a mercury CEM will not be required but the facility will be stack tested annually for mercury in addition to the supplier and onsite clean wood fuel testing.</p>
	Susan Reid, CLF	<p>3)The following monitoring requirement should be added: PRE should be required to use and maintain the PM CEMS as a “direct-compliance” monitor to measure compliance with the particulate matter limits contained herein. A “direct-compliance” monitor generates data that legally documents the compliance status of a source.</p> <p>4)The draft permit would allow PRE to operate opacity monitors as little as 75% of the hours the facility operates over the course of a day. Opacity standards must be met on a minute by minute basis and allowing downtimes of 25% with no requirements for Method 9 readings will not ensure compliance with the emissions limitations. This must be revised.</p>	<p><b>PM CEMS Direct Compliance Monitor</b> – A comment stated that PRE should be required to use and maintain the PM CEMS as a direct-compliance monitor. The non-major comprehensive plan approval already contains this requirement in Table A, condition #30.</p> <p><b>CEM/COM Operating Hours</b>– The non-major comprehensive plan approval requires the continuous operation of the opacity monitor. Please see monitoring requirement condition #3 of the non-major comprehensive plan approval which requires that, “Palmer Renewable Energy, LLC shall operate the opacity monitor at all times the subject emission unit is operating, except for periods of calibration checks, zero and span adjustments, and preventive maintenance.”</p>

<b>Table 9b Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response - continued</b>
<b>Air Quality Monitoring</b>	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society, Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition, Geoff Brown-RN South Deerfield	5)PRE should pay the city of Springfield for the cost of an independent, third party to monitor the CEM stream for the life of the incinerator to ensure there are no air quality violations.If there are violations, then the city of Springfield will have the authority to close the plant. The CEM stream should be for the maximum number of pollutants the plant can emit, including heavy metals.	<b>(continued from Table 9a)</b> Third party contractors will be used for the quarterly continuous emission monitor audits. These contractors will perform audits for MassDEP's review and, if required, subsequent enforcement.

Table 10a Area of Concern	Commentors	Relevant Comments	Response	
Fuel Supply/Usage	Chris Matera – MA Forest Watch	<p>1) Can DEP change the fuel source to forestry derived, or even back to construction and demolition debris if it is clear that enough clean non-forestry derived waste is not available once the incinerator is built?</p> <p>2) It is extremely difficult, if not impossible, to track wood chips which could easily come from forestry operations and be claimed as coming from non-forestry sources. DEP does not have the manpower or resources to adequately monitor the wood supply.</p> <p>3) “We do not accept the credibility of claims by proponents that there is enough clean, non-forestry derived, wood fuel available to supply this facility and that if the facility were built, it is quite likely that pressure would be applied to regulators to allow forestry derived and other fuel sources including the possibility of construction and demolition debris as originally proposed.” “if all the alleged amounts of “waste” wood were truly available, Pinetree would not need to use green trees from forestry operations. The state sponsored biomass availability analysis shows a much smaller quantity of “waste” wood availability than the PRE analysis. The more than 400,000 green tons of fuel required for the facility is more than the entire combined annual public and private commercial timber harvest in MA.</p>	<p><b>Fuel Supply Restriction and Contamination Concerns</b> - The MassDEP has established several restrictions/limitations in order to ensure that PRE receives only clean wood fuel supplied only from non-forest derived wood materials. As specified in the conditions of the air quality plan approval, MassDEP has limited PRE to only burn clean wood fuel from non-forest derived wood materials which shall not contain <b>any</b> construction and demolition waste or any wood that may contain paints, surface treatments, plastic laminants, preservatives, hazardous materials which include asbestos, polychlorinated biphenyls, petroleum products and noncombustibles such as rocks, metal, ice, etc.</p> <p>PRE cannot voluntarily decide to switch the type of fuel they combust without violating their plan approval and coming under enforcement by MassDEP. Any requests for a change in the type of fuel combusted in the boiler must first be submitted for written approval in a plan approval application to MassDEP and a NPC shall be filed with MEPA as stated in the NPC certificate dated November 19, 2010.</p> <p><b>Fuel Supply Definition</b> – The clean wood fuel supply has been clearly defined in condition #3 of the in Section 8. Special Terms and Conditions of the Non-Major Comprehensive Plan Approval. The condition specifies that clean wood fuel shall be supplied only from non-forest derived wood materials which shall come from only the following sources: primary forest products industry, secondary forest products industry, land use change – non-agricultural, land use change – agricultural, yard waste and wood waste as specified and defined in the Wood Fuel Quality Assurance Program dated November 8, 2010. Each of the sources, such as primary forest products industry, were defined within Section I.B. of the non-major comprehensive plan approval and are also defined in PRE’s Wood Fuel Specification dated November 8, 2010. This description/definition of non-forest derived wood also corresponds with DOER’s proposed definition of non-forest derived wood materials for biomass woody fuel. In regards to concerns that grass clippings will be used as fuel, no where does the plan approval allow the burning of any yard waste other than clean wood which may be derived from yard waste. Condition #2 of in Section 8. Special Terms and Conditions of the Non-Major Comprehensive Plan Approval specifies that only clean wood shall be fired in the stoker boiler except that natural gas may be used for startups and flame stabilization.</p>	
	Richard Stein, Goessmann Professor of Chemistry, Emeritus, UMASS	4) The use of polluting feedstock should be prohibited.		
	Claudia Hurley, Westfield	<p>5) The assessment of available clean fuel for the plant has not been independently verified, and therefore, the content of the air permit depends on vague and undocumented fuel supply. The air permit is invalid until the availability of the fuel supply has been guaranteed.</p> <p>6) There is a discrepancy between the description of the available sources for fuel as in the Notice of Project Change and the description of sources of fuel as listed in #3 on the page titled, Biomass-Fired Boiler Operational Requirements/Restrictions. The NPC included wood fuel sources from land clearing for wildlife purposes but this source was not included in the draft plan approval.</p> <p>7) There must be no post-startup alterations to the fuel specifications. There must be no option for future use of forestry derived fuel, including wildlife management harvests. There must be no option of using C&amp;D derived wood, telephone poles or tire derived fuel.</p>		

Table 10b			
Area of Concern	Commentors	Relevant Comments	Response - continued
Fuel Supply/Usage	Steven Dzubak, Springfield	<p>8) The current inspection schedule listed in the permit is completely inadequate to ensure that the facility does not mix forest derived wood. The permit should ensure that no logging of whole trees on public or private land occurs to feed the incinerator, including logging for wildlife management practices. “</p> <p>8)The permit must ensure that the facility cannot switch to any other fuel source in the future, including forest derived wood or construction and debris material.”</p> <p>9)There has been no independent verification that the fuel supply is even attainable. PRE should prove that the fuel supply is sustainable before a permit is issued to ensure the facility uses non-forest wood material.</p>	<p>(continued from Table 10a)</p> <p><b>Wood Fuel Odors</b> – Some comments expressed concern that there will be odors from the wood storage piles. As specified in the non-major comprehensive plan approval, the storage area can only store a 5,000 ton pile (approximately a 4.5 day supply of wood fuel). In addition the type of storage and reclaim operation will prevent fuel which was first delivered/processed from ending up at the bottom of the pile. Having a limited 4.5 day supply for wood storage and a first in/first out handling process will prevent the decomposition of wood which can lead to odors. PRE must also comply with the odor regulation of 310 CMR 7.09.</p> <p><b>Wood Fuel Throughput Potential</b> A comment indicated that the fuel use was based on something less than the potential to use. The annual fuel throughput was based on the boiler firing at a maximum heat input rate of 509 MMBtu/hr at 8760 hours per year which equates to 432,160 tons of wood fuel.</p> <p><b>Wood Handling, Processing and Storage</b> A comment stated that PRE ignored the impacts from their wood handling, processing and storage operations. According to PRE’s non-major comprehensive plan approval application, these areas of concern were not ignored since the particulate matter emissions from each of these areas at their proposed facility were calculated and included in their application.</p> <p><b>Tarping of Wood Fuel Trucks and Hours of Operation</b> It was stated that it should be clearly defined as to whether clean wood fuel delivery trucks will be covered. PRE has responded to this comment and has proposed to require all trucks loaded with wood fuel entering or exiting the facility to have enclosed trailers or have their beds completely tarped. MassDEP has added a condition to the plan approval to specify this requirement.</p>
	Todd Gionfriddo, Agawam	10)“There is no guarantee that CCA lumber or PCB laden wood will not find its way into the furnace. Burning of CCA lumber can release any number of toxins into the air and PCBs...”	
	Richard Halpin, Indian Orchard	110)“...when they run out of wood, which they will, demo wood or any other will be burned.”	
	Donna Hawk, RRT, American Lung Association of New England	12) Concerned that the fuel supply is not sustainable and that C&D will be used when there isn’t enough green wood fuel.	
	Stuart Warner, Stop Toxic Incineration in Springfield	13)Wood is a mystery, there is not enough	
	Don James, President of Arise	14) Trucks will bring C&D wood into PRE to burn. There is not enough green wood in MA.	
	Ellen E. Moyer, Ph.D., P.E., Montgomery	<p>15) It is impossible to control fuel quality, almost anything can be in wood including Cesium 137 a radioactive isotope.</p> <p>16)An adequate supply of “clean” wood is simply not available on a sustainable basis. The clean wood will inevitably run out and the plant will request permission to burn construction and demolition waste.</p>	

Table 10c			
Area of Concern	Commentors	Relevant Comments	Response- continued
Fuel Supply/Usage	Linda E. Blake	17) MA forests will eventually be taking bigger and bigger hits.	<p>(continued from Table 10b)</p> <p>A comment requested that the hours of operation for each yard operation and facility operation should be clearly defined. The non-major comprehensive plan approval does not have any hourly restrictions on the operation of the boiler since PRE has requested to be allowed to operate 8760 hours per year. The yard operations such as wood fuel deliveries, front end loader operation, wood grinding operation and lime silo loading have been restricted to the hours of 6 AM through 10 PM as specified in Condition #28 on page 53 of the draft non-major comprehensive plan approval. However, PRE has requested to modify this condition to limit wood fuel deliveries and lime silo loading to 6AM to 7PM and operation of the front end loader and wood grinding operation from 6AM to 10PM. MassDEP has modified the applicable condition.</p> <p><b><u>Wood Fuel Supply Reliability/Sustainability</u></b></p> <p>The sustainability and reliability of the wood supply for PRE was provided in Attachment I of the NPC dated September 2010. The green wood chip (GWC) survey contained in Attachment I estimated that there are currently 1,274,168 tons per year of non-forest derived GWCs available in close proximity to the Springfield site. The analysis therefore concludes that the available supply of GWCs in close proximity to Springfield will be more than enough to supply PRE's maximum wood fuel throughput of 432,160 tons per year. In addition, and as noted above, the risk that the supply is insufficient to power the facility is borne by PRE because the air quality plan approval only approves the use of non-forest derived wood materials. Northern Tree Service, Inc. will be responsible for the procurement and oversight of all GWC for PRE.</p> <p><b><u>Fuel Sampling, Monitoring and Testing</u></b> – see response in Table 11a and 11b below for fuel sampling, monitoring and testing concerns.</p>
	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society, Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition, Geoff Brown-RN South Deerfield, Sylvia Broude-Toxics Action center	<p>18) Experts have not identified enough fuel to fuel this incinerator. The fuel source is undefined, variable and unidentified.</p> <p>19) There must be no post-startup alterations to the fuel specifications. There must be no option for future use of forestry derived fuel, including wildlife management harvests. There must be no option of using C&amp;D derived wood.</p>	
	Sylvia Broude Toxics Action Center	<p>20)The fuel supply definition is confusing and contradictory. The permit should state that fuel is ineligible if it comes from whole trees or contains heavy metals or any other contaminant.</p> <p>21) There has been no verification of the amount of fuel available to fuel this incinerator as defined in the permit. The estimated amount required may well be inadequate. The sources are undefined, unidentified and dependent on economics and logistics.</p>	
	Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, M-Pioneer Valley Asthma Coalition	22)Pallets should be prohibited as a source of clean fuel. There are no provisions for tracing the origins of ground pallets which may well have been contaminated by toxic materials.	
	Margaret Sheehan, Esq., Biomass Accountability Project	23) The fuel supply is questionable. The conditional air permit states that the boiler will burn a maximum of 432,160 tons of green wood chips per year. This quantity of wood fuel exceeds the current MA total harvest of 325,000 green tons per year. The developer has failed to present a legitimate, independently-verified fuel supply.	

Table 10d			
Area of Concern	Commentors	Relevant Comments	Response- continued
Fuel Supply/Usage	Form Letter Submittals	24) The fuel supply is questionable. The conditional air permit state that the boiler will burn a maximum of 432,160 tons of green wood chips per year. This quantity of wood fuel exceeds the current MA total harvest of 325,000 green tons per year. The developer has failed to present a legitimate, independently-verified fuel supply.	
	Patrice Pare, Chicopee	25) The availability of the fuel supply is a concern along with its toxic emissions. Will PRE burn construction and demolition debris should the run out of virgin wood?	
	Glen Ayers, Leverett	26) DEP has segmented this project by ignoring the impacts from the wood handling, processing, and storage facilities. The applicant has hidden info necessary to make an informed decision by including the impacts from only a 4.5 day wood storage system.	
	City of Springfield	27) The conditional approval does not indicate whether the clean wood fuel delivery trucks will be covered. The hours of operation for each of the yard operations and facility operations, should be clearly defined. 28) Clarification on whether yard waste is to be an acceptable fuel source is required. 29)What if any odor control will be necessary if yard waste is used? 30) A concern is the availability of the fuel source and the viability of that source during winter months.	
	Mary Booth, PhD, Pelham	31)The amount of wood stipulated in the permit is not correct. The calculation of fuel use is on something less than a "potential to use" basis. DEP should be consistent in how these estimates are made.	
	Susan Reid, CLF	32)Fuel material definitions are self contradictory and deeply flawed. Permit indicates fuel shall be only from non-forest derived wood materials yet in the same sentence it provides that eligible fuels may come from the primary forest products industry and secondary forest products industry. Further definitions of fuel from sources including non agricultural and agricultural land use change suggests that whole trees will be eligible.  33)The inclusion of municipal wood fuel including pallet grindings is too open-ended given that entirely separate regulatory processes are invoked to the extent C&D debris should ever be considered a fuel source.  34)The permit should unequivocally state that fuel is ineligible for use at the PRE facility if the fuel is derived from whole trees or contains heavy metals, CCA or any other contaminant, or is derived from C&D debris.	
	Francis G. Ryan, Secretary, East Forest Park Civic Association	35) The sustainability in the quantity of the new fuel source is questionable.	

Table 11a			
Area of Concern	Commentors	Relevant Comments	Response
<b>Fuel Sampling/ Testing</b>	Stuart Warner, Stop Toxic Incineration in Springfield	1) The wood sampling and monitoring is inadequate.	<p><b>Adequate Fuel Sampling, Monitoring and Testing Concerns</b></p> <p>The combination of stack testing and fuel source sampling will provide a high level of ongoing emission monitoring from the stack as well as any contaminants in the fuel supply that might, but are unlikely to, occur.</p> <p>The initial stack test will be both for compliance with emission limits and also for verifying fuel supply contaminants. The initial stack test will be conducted within 180 days after initial start-up for nitrogen oxides, carbon monoxide, sulfur oxides, volatile organic compounds, ammonia, total particulate matter, total PM-10, mercury, hydrogen chloride, lead, opacity, antimony, arsenic, cadmium, chromium, cobalt, manganese, nickel, phosphorus, selenium and titanium as well as testing for all organic hazardous air pollutants. These stack tests will be repeated yearly.</p> <p>Suppliers or sources of wood from municipal wood fuel facilities shall receive only clean wood and shall not be co-located with a solid waste transfer facility. Wood from a private wood yard facility that accepts any type of treated wood is prohibited for use as fuel. Additionally, Palmer Renewable Energy, LLC, shall have a signed contract with all suppliers of clean wood fuel, as defined in condition #3 of Section 8. Special Terms and Conditions of the non-major comprehensive plan approval, which prohibits any type of treated wood in the fuel supply to Palmer Renewable Energy, LLC. This contract shall be provided to MassDEP at least 30 days prior to the initial receipt of clean wood from a qualified municipal wood fuel supplier and shall include the wood sampling test results, which were sampled and analyzed by a third party, for each municipal wood facility and private wood yard facility.</p> <p>An initial compliance inspection of each municipal and private wood yard shall be conducted by PRE prior to accepting any shipments of wood from the respective source. MassDEP has also required that PRE conduct, regular, documented, quarterly unannounced visits to all wood yards for the purposes of inspecting the clean wood fuel supplies as well as taking a sample of the wood fuel for ongoing compliance with the applicable clean wood fuel conditions in the plan approval. MassDEP has required that each of these inspections shall be recorded to include the name and location of the municipal or private wood yard, a detailed description of the clean wood fuel storage area, the date and time that the inspection was performed, the date and time that the fuel sample was obtained, the identity of the person performing the inspection and obtaining the fuel sample, the location of where the sample was obtained, test results for each sample, etc. and any description of noncompliance issues and any corrective actions taken for the purposes of verifying compliance with the applicable clean wood fuel conditions in the plan approval.</p>
	Linda E. Blake	2) Would there be independent watchdogs to prevent certain products from being incinerated there and to check on an ongoing basis for detrimental hazards to the health and well-being of the community?	
	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society, Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition, Geoff Brown-RN South Deerfield	<p>3) Yard inspection and sampling, as well as truck load sampling, must be increased substantially. The minimal sampling required in the permit is meaningless and has little chance of identifying contaminants or prohibited wood.</p> <p>4) All yard inspection, sampling and testing must be performed by independent, third parties using unannounced schedules.</p> <p>5) Testing schedule and protocol must acknowledge that out of state sources are not controlled by MA standards or subject to state inspection.</p> <p>6) PRE's right to reduce testing and sampling of wood must be removed from the permit. There is NO justification for sampling and testing to be reduced over time.</p>	
	Claudia Hurley, Westfield	<p>7) Fuel from out of state must be specifically addressed since out of state sources are not controlled by MA standards nor are they subject to state inspection.</p> <p>8) Rigorous testing must occur independently and regularly and for the life of the facility. Testing or sampling of wood should not be reduced over time.</p>	
	Margaret Sheehan, Esq., Biomass Accountability Project	9) The states plans to monitor this questionable stream will not ensure that contaminated fuel does not make its way into the fuel supply	
	Form Letter Submittals	10) The states plans to monitor this questionable stream will not ensure that contaminated fuel does not make its way into the fuel supply	

Table 11b			
Area of Concern	Commentors	Relevant Comments	Response- continued
Fuel Sampling/ Testing	Sylvia Broude Toxics Action Center	<p>11) Weekly and quarterly testing of the fuel supply is grossly insufficient to adequately monitor the deliveries of fuel. We need daily testing.</p> <p>12) MassDEP should required intensive sampling and inspection of potential wood supplies and documentation of the results before the permit is approved. All testing, inspections and sampling should be performed by independent, third parties, using unannounced schedules.</p> <p>13) MassDEP must include methods by which out-of-state sources can be guaranteed to comply with clean fuel standards.</p> <p>14) This facility should require strict monitoring throughout the life of the plant. There should be no opportunity for the permittee to request changes.</p>	<p>(continued from Table 11a)</p> <p>A semi-annual report shall be submitted to MassDEP which shall contain, among other things, a list of all municipal or private wood yards for which inspections were performed, the corresponding date that each wood yard was inspected and any inspection reports for which a municipal or private wood yard was found to be in noncompliance with the applicable clean wood fuel conditions contained in Section 8. Special Terms and Conditions of the Non-Major Comprehensive Plan Approval. The report shall contain an explanation of the noncompliance issue and the corrective actions taken.</p> <p>The abovementioned sampling, monitoring and testing requirements apply to each municipal wood facility and private wood yard facility regardless of what state they may be located in.</p>
	City of Springfield	15) It may be appropriate to provide specific requirements on the regularity of testing and reporting rather than by reference to the Wood Fuel Quality Assurance Program dated November 8, 2010.	Additionally a weekly composite sample will be collected from a minimum of five wood fuel delivery trucks, containing wood from municipal wood facilities and private wood yards, for a heavy metals analysis to determine the concentration in units of milligram per kilogram as delivered for arsenic, chromium, lead and mercury. All wood fuel deliveries will be visually inspected for any amount of obvious non-wood materials that would exceed the wood fuel specification.
	Susan Reid, CLF	<p>16) The principal fuel supplier handles materials from Asian Longhorn Beetle quarantine areas as well as “waste wood” so there is a material risk of commingled fuel streams. Weekly and quarterly testing of the fuel supply is grossly insufficient to ensure that the fuel is not contaminated.</p> <p>17) We question how the fuel suppliers proposed by PRE could effectively meet the more stringent standards (31.6 mg/kg of lead and 0.1 mg/kg of mercury) if PRE itself did not believe that would be feasible, based on the representations in the Amended Application.</p> <p>18) Given the difficulty of monitoring contaminant levels in vast heterogeneous supplies of fuel on an ongoing basis, we are skeptical that the limits can be enforced.</p> <p>19) The Department should only reserve authority to make the wood fuel sampling and testing constituents and frequency more stringent. Any loosening of the conditions necessarily should require a formal permit modification proceeding with concomitant opportunity for public input.</p>	<p>It should be mentioned that the required clean wood fuel monitoring, sampling and testing requirements for this plant in comparison to other similar existing wood-fired plants and recently approved plants are extremely extensive since other similar sized wood-fired plants have little, if any required fuel sampling, monitoring or testing requirements for clean wood fuel. One example of this is the recently approved (July 26, 2010) Prevention of Significant Deterioration Permit and Non-Attainment New Source Review Permit for a 70 Megawatt Biomass-fired Electric Generating Facility at Laidlaw Berlin BioPower, LLC in Berlin, NH. This facility has no sampling, monitoring, or testing requirements for the clean wood fuel nor does it have a wood fuel specification.</p> <p><b><u>Fuel Sampling/Monitoring/Testing Frequency Modifications</u></b></p> <p>It is within MassDEP’s authority to revise, at any time, the frequency of the sampling, monitoring, testing, recordkeeping and reporting requirements for any facility if it is deemed necessary to do so. If PRE requests a revision to a sampling, monitoring, testing, recordkeeping and/or reporting requirement, MassDEP will make a determination based on the information available at that time.</p> <p><b><u>Asian Longhorn Beetles (ALB)</u></b> – See response in Table 16 below for ALB concerns in fuel supply.</p>

Table 12	Commentors	Relevant Comments	Response
Area of Concern			
Fugitive Dust	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society, Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition, Geoff Brown-RN South Deerfield	1)PRE should provide details of the location and fugitive emission controls planned for their wood processing yard.	<p><b><u>Fugitive Particulate Matter Emission Controls for Wood Handling and Processing</u></b></p> <p>The potential for and the minimization of fugitive particulate matter emissions from the wood handling/ processing facility was addressed in detail by PRE in their plan approval application and subsequent submittals. The proposed controls and work practices contained in the non-major comprehensive plan approval are representative of best available control technology. The resulting requirements for controlling fugitive emissions from the wood handling/processing facility have been addressed in Conditions #15 through #19 under the Wood Handling/Processing Requirements as well as Conditions #30 through #37 under the Plant-Wide Additional Requirements of the Non-Major Comprehensive Plan Approval.</p>
	Claudia Hurley, Westfield	2)Emissions controls for the on site storage shed as well as any off site processing yard must be consistent and thorough. Fugitive emissions are unacceptable at the site or at the separate fuel storage site.	<p>PRE will still be subject to the nuisance laws of state and local governments.</p> <p><b><u>Fugitive Particulate Matter Emissions Wood Storage Facilities other than PRE</u></b></p> <p>Some comments have indicated that PRE has other off-site wood storage piles. According to PRE, they do not own or operate any other wood storage piles other than the one that is onsite at their facility. The fugitive particulate matter emissions from other private wood yards or municipal wood yards are not relevant to this plan approval but are regulated under the nuisance laws of state and local governments. Applicable state regulations are 310 CMR 7.09 and 310 CMR 7.10 for dust, odor and noise.</p>

Table 13			
Area of Concern	Commentors	Relevant Comments	Response
Environmental Benefit	Chris Matera, P.E.- Mass Forest Watch	<p>1) It is unreasonable to burn whatever, if any, clean waste wood in a biomass electric facility at 23 percent efficiency. Clean waste wood should be used as fuel for a highly efficient CHP facility.</p> <p>2) 'In return for only 0.25% more electric for MA that is not even needed, this wood burning incinerator would emit carbon dioxide at a higher rate than a 50 year old coal plant, add hundreds of tons of annual air pollution to an already polluted city, inefficiently throw away any clean waste wood that may exist, increase the threat of spreading invasive pests and pathogens, waste hundreds of millions of dollars worth of valuable clean energy public subsidies and undermine future public support for clean energy subsidies and concepts.</p>	The efficiency rate for the type of fuel burned at a facility is a nonjurisdictional issue for MassDEP; however, if the facility is seeking renewable energy credits then their efficiency is regulated by the Division of Energy Resources (DOER). However, PRE is required pursuant to reporting requirement condition #7 of the non-major comprehensive plan approval to submit an annual engineering report to MassDEP on the efforts to maximize efficiency and mitigate greenhouse gas emissions through design and operation measures. The engineering report shall contain, at a minimum, an update on the efficiency improvements and greenhouse gas mitigation measures, as well as a list of any new improvements to process efficiency or greenhouse gas mitigation that are being implemented or a being evaluated. The report shall also contain an update on efforts to incorporate cogeneration and/or the distribution of waste heat for process or facility heating in nearby business or institutions.
	Francis G. Ryan, Secretary, East Forest Park Civic Association	3) "Their new Incinerator reduces its power generation to 35 MW, and will produce LESS than 1/3 of 1% of MA's total power production and be ONLY 15%-25% fuel efficient – with the rest of the wood going up in toxic smoke! The New England energy grid presently has at least one-third excess capacity."	
	Richard Stein, Goessmann Professor of Chemistry, Emeritus, UMASS	4)Cogeneration should be encouraged to avoid wasting energy and environmental damage arising from evolved heat.	
	Jesse Lederman, McKnight Neighborhood Youth Council	5)The plant will provide less than 1% of the energy needs for Massachusetts.	
	Shirley McCreedy, Springfield, Mass Senior Action Council	6)The three proposed plants (Russell, Pittsfield, Springfield) once built would provide only 1% of the area's electrical needs.	
	Claudia Hurley, Westfield	7)The inefficiency of this plant and the small amount of electricity that will be added to the grid from this plant do not justify either the negative ramification to the health of the people nor the negative impacts to our environment.	

<b>Table 14</b>			
<b>Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response</b>
<b>Noise</b>	Linda E. Blake, Springfield	1) There will be high decibel of operation.	The plant operations are subject to the Department's noise policy and have been limited in the plan approval conditions to ensure compliance with MassDEP's noise policy and 310 CMR 7.10 but transient noise can also be regulated under the local board of health authority (M.G.L. Chapter 111, Section 122).
	Claudia Hurley, Westfield	2) There are contradictions in several places about the hours of operation with respect to generation of noise.	<b><u>Hours of Operation</u></b> There have been no contradictions found in the plan approval in regards to hours of operation. The daytime only sources (including wood fuel deliveries, lime silo loading, the front end loader and wood grinding operations), as described in the plan approval, are allowed to operate from 6AM to 10PM which is consistent throughout the plan approval. All other sources are allowed to operate 24 hours per day. The facility's noise analysis was conducted during these time periods assuming all applicable sources operating. This analysis demonstrated compliance with MassDEP's noise policy. Therefore, there will be no noise impacts. However, PRE has requested to modify this condition to limit wood fuel deliveries and lime silo loading to 6AM to 7PM and operation of the front end loader and wood grinding operation from 6AM to 10PM.

Table 15a Area of Concern	Commentors	Relevant Comments	Response
CO2 Comments	Donald Carr, Springfield	1)"I ask for a moratorium on biomass facilities until the development of an accurate and standardized procedure for quantifying the effective climate impact of greenhouse gas emissions from biomass combustion." The greenhouse gases and soot emitted will accelerate global warming.	<p>The Greenhouse Gas Policy to implement the Clean Energy and Climate Plan for 2020 is still under development by MassDEP.</p> <p>In a letter to Susan Reid, Esq. dated November 19, 2010, Secretary Bowles stated, "I agree that the Global Warming Solutions Act and the Manomet study are significant developments in the evolution of the Commonwealth's policies towards biomass-fueled power projects such as the Palmer Renewable Energy project. However, these developments have yet to be fully implemented and their final impact, if any, on the proposed project remains unclear." The letter goes on to state that there are no specific greenhouse gas emissions standards or reduction targets applicable to biomass power projects at this time. Additionally, DOER has recently presented revised regulations for issuance of renewable energy credits for woody biomass facilities to the Legislature for review. The final regulations are pending review by the Legislature and have not therefore been adopted. Consequently, it is unclear how the current project would be treated under those regulations.</p> <p>The MEPA Office established the GHG Emissions Policy and Protocol to address the mandate of the Global Warming Solutions Act that state agencies consider GHG emissions and impacts in issuing project approvals (see M.G.L. c. 30, s.61 as amended), The Policy is applied to projects that are subject to an EIR and requires projects to conduct a quantitative assessment of their likely GHG emissions and to propose mitigation to offset those emissions. However, it does not establish allowable emission levels or performance standards, nor does it prescribe mitigation. Despite the fact that it was not required under the MEPA GHG Policy because it did not require an EIR, the NPC included a GHG analysis that disclosed associated GHG emission and evaluated mitigation measures. Though not required, PRE's analysis was found to comply with the requirements of the MEPA GHG Policy and Protocol per the NPC Certificate dated 11/19/10, which is the only currently available regulatory requirement for projects in Massachusetts. <b>-NPC Certificate dated 11/19/10 and Secretary Bowles' letter to Sue Reid 11/19/10</b></p>
	Paul M. Martin	2)"...a wood fired generator emits much more CO2 per unit of electricity produced than a coal fired generator!" "The reality is that it will take on the order of 70 to 100 years to re-capture enough of the CO2 released by operations to achieve equilibrium between emissions and re-capture (per Manomet study of biomass incineration)." "...this plant will increase the problem of climate change, not contribute to the solution."	
	Chris Matera – Mass Forest Watch	3) "It is well known that this brand new wood fired biomass power plant would emit carbon dioxide at a rate about 50% higher than an old coal plant." 4) DEP should examine the carbon dioxide impacts of the leakage effects of taking fuel away from other biomass plants.	
	Francis G. Ryan, Secretary, East Forest Park Civic Association	5)"PRE projects burning 470,000 toxic tons of 'green' wood chips producing 50 times the present legal limits of carbon dioxide emission of the pre-existing Mt. Tom coal burning plant!" 6)"The Global Warming Solutions Act calls for reducing greenhouse gas emissions by 20% by 2020. PRE's Notice of Project Change – Appendix E, does not provide that it will be carbon neutral, and does NOT present any attempt at a 20% reduction in GHG emissions."	
	Michael Gossman, Springfield	7) Biomass burning contributes to climate change.	
	Shirley Dupre, Springfield	8)"It would take years for any new trees (40 years is stated) to grow enough to capture the carbon generated from the biomass burning."	
	Chrisoula Marangoudakis, Longmeadow	9)"...this plant will be contributing to global warming and climate change, which need to be offset at this time and not be added to."	
	Susan Reid, CLF	10)Draft plan approval has no meaningful analysis of climate impacts and affects. 11)DEP has not met the Global Warming Solutions Act requirement that it must consider the climate impacts and effects of the PRE project before issuing any approval.	

Table 15b Area of Concern	Commentors	Relevant Comments	Response - continued
CO2 Comments	Susan Reid, CLF	12)The Conditional Approval for PRE points out that PRE estimated the facility's boiler emissions (not total emissions) to be 434,737 tpy whereas the value used in the MEPA NPC was 393,476 tpy. This discrepancy alone, presented without any analysis or indicia of actual consideration of anticipated impacts, manifests the Department's failure to comply with the basic mandate of c.30 Section 61.	<p>(continued from Table 15a.)</p> <p>However, as required in part by the Secretary's Certificate and to ensure that GHG emissions are avoided and mitigated, MassDEP has required, as specified in Reporting Requirement #7 of the Non-Major Comprehensive Plan Approval, that within 12 months of the issuance date of the air quality plan approval, Palmer Renewable Energy, LLC shall provide an engineering report to MassDEP on the efforts to maximize efficiency and mitigate greenhouse gas emissions through design and operation measures with a goal of achieving a minimum efficiency of 33% within 5 years of commencing operation. After the initial annual report, Palmer Renewable Energy, LLC shall annually submit the engineering report to MassDEP, in a format acceptable to MassDEP, and postmarked by no later than January 30<sup>th</sup> of each year. The engineering report shall contain, at a minimum, an update on the efficiency improvements and greenhouse gas mitigation measures, as well as a list of any new improvements to process efficiency or greenhouse gas mitigation that are being implemented or a being evaluated. The report shall also contain an update on efforts to incorporate cogeneration and/or district energy.</p> <p>The MEPA NPC certificate also requires the following mitigation measures:</p> <ul style="list-style-type: none"> <li>• provide \$2 million to the City of Springfield to address existing health impacts in Springfield and provide other community benefits. –See NPC Certificate dated 11/19/10</li> <li>• the use of biodiesel for the yard front-end loader.</li> <li>• encourage the use of biodiesel by fuel delivery and ash haul trucks.</li> <li>• the installation of a solar photovoltaic (PV) array with an approximate capacity of 135 kW on the roof of the fuel storage shed to provide onsite power.</li> <li>• the use of refrigerants with low ozone depletion potential.</li> <li>• establish a goal of a 50% reduction in construction debris.</li> <li>• continue to explore the incorporation of cogeneration at the site and conduct a district energy prefeasibility assessment to identify potential users.</li> <li>• diesel retrofits for truck fleets delivering feedstock and /or retrofits of municipal fleets.</li> <li>• the use of post-construction air monitoring at the property perimeter. PRE has agreed to establish three separate PM<sub>2.5</sub> air quality monitors, two NO<sub>2</sub> air quality monitors and a permanent meteorological (met) station.</li> </ul>
		13)There is an absence of any analysis of mitigation measures that are likely to produce significantly lower GHG impacts, such as combined heat-and-power and thermal applications that would be able to extract far more useful energy from the same fuel supply.	
		14)Some factors MassDEP should have considered but did not are: 1) climate impacts of 27.7% efficiency as compared to 60 to 80% efficiency for a CHP unit or 80 to 90% efficiency for thermal applications, 2) Climate consequences of diverting biomass fuel away from power plants in Maine, 3) Climate impacts of trucking sufficient fuel to the PRE facility rather than using it in smaller, more efficient, distributed heating or CHP facilities, 4) impacts on the elevated risk of Asian Longhorned Beetle pests that could be transported into Springfield and destroy summer shade trees increasing GHG emissions 5) climate impacts anticipated in the event demand for biomass outstrips supply that can be sustainably produced.	
	Steven Dzubak, Springfield	15)"...the permitting of this facility directly contradicts the directive of the Global Warming Solutions Act, which calls for 80% cuts in green house gas emissions by 2050.	
	Jeff Napolitano Program Coordinator American Friends Service Committee	16) The plant is bad for climate change.	
	John Miller, Stop Toxic Incineration in Springfield	17) The plant will be adding to global warming effects.	
	Patrice Pare', Springfield	18) Plant will worsen greenhouse gases and global warming.	
Shanti Gaia, Longmeadow	19) The plant adds to climate change problem.		

Table 15c			
Area of Concern	Commentors	Relevant Comments	Response - continued
CO2 Comments	Claudia Hurley, Westfield	20) PRE projections of CO2 emissions are inaccurate and PRE would worsen, not solve our overall CO2 emissions/climate change problems. It is possible that accurate analysis of CO2 emission would make this project subject to the more stringent standards of a Major Source for hazardous air pollutants. 21) Carbon dioxide emissions, as calculated by PRE should be required to include ramifications to forest wood that will occur if in fact their suppliers of waste wood abandon former customers in order to provide waste fuel to the PRE plant and if the proposed tons of required fuel prove to be inadequate to meet the needs of the facility.	<p>(continued from Table 15b.)</p> <p><b><u>PSD and Title V Greenhouse Gas Tailoring Rule</u></b>  A comment stated that EPA's Clean Air Act Tailoring Rule exemption for biogenic emissions from biomass burning is unlawful and that PRE should conduct a full top down BACT analysis for GHG. The Clean Air Act Tailoring Rule would require a new facility such as PRE to conduct a BACT analysis of its GHG emissions if it began construction after July 1, 2011. However, EPA has proposed to defer the application of the Prevention of Significant Deterioration (PSD) and Title V permitting requirements to biogenic carbon dioxide (CO2) emissions from bioenergy and other biogenic stationary sources for a period of three (3) years. If PRE begins construction before the proposed deferral becomes final, the facility would be subject to the GHG BACT review requirement.</p> <p>It should be noted that the NPC Certificate dated 11/19/10 required the minimization of potential GHG emissions and specified several mitigation measures which have been included in Section VII. of the non-major comprehensive plan approval. As a result, there are significant energy efficiency requirements in the non-major comprehensive plan approval which are very similar to what would have been required under the PSD program.</p>
	Charlotte Burns	22) Burning wood puts more greenhouse gases in the atmosphere than coal.	
	Margaret Sheehan, Esq., Biomass Accountability Project	23)"The EPA Clean Air Act Tailoring Rule exemption for biogenic emissions from biomass burning is unlawful, and in any event is not a final regulation. Therefore, the PRE project must comply with the CAA Tailoring Rule for greenhouse gas emissions and conduct a full top down BACT analysis for GHG."	
	John Miller, Springfield	24) Emissions will be adding to the global warming problem by emitting ~500,000 tons of CO2 emission per year which is totally contrary to the MA Global Warming Solutions Act.	
	City of Springfield	25)Approval should state that the project would reduce GHG emissions to meet the 2020 GWSA standards.	
	Mary S, Booth, Ph.D., Pelham	26)The amount of greenhouse gases emitted by the facility is greater than stated in the permit. It should include the methane emissions from the facility's wood chip pile estimated in total greenhouse gas emissions from the facility. Wood chip piles can be a significant source of methane as well as other toxic gases.	

<b>Table 16</b>			
<b>Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response</b>
<b>Insects</b>	Steven Dzubak, Springfield	1)"The developer should be held responsible for any infestation of Asian Long Horn Beetle that arrives into the Springfield area as a result of wood being shipped from Worcester."	The ALB is regulated by the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS).
	Francis G. Ryan, Secretary, East Forest Park Civic Association	2) Concern that there is the potential for insect infestation to the surrounding environment.	APHIS has partnered with the U.S. Forest Service, the Massachusetts Department of Conservation and Recreation, the Massachusetts Department of Agricultural Resources, and the City of Worcester. Together, these organizations form the ALB Cooperative Eradication Program in Massachusetts.
	Susan Reid, CLF	3)We are concerned about the risks posed by the PRE project with respect to potential introduction to the Springfield area of invasive pests such as the Asian Longhorned Beetle.	
	Claudia Hurley, Westfield	4) The air permit should not allow any fuel supply from any source, in any form that could possibly transport invasive insects or diseases to the Springfield area.	Both Federal and State law establish regulated areas around ALB infestations. The regulated areas assist in beetle eradication by curtailing the movement of materials that could host populations of the ALB. This keeps infestations from spreading. Federal and State laws outline the conditions and requirements for moving regulated articles out of or within the infested area. The United States Department of Agriculture Plant Protection Act of can be found at 7 CFR 301.51. Only The USDA should remove any tree with signs of ALB infestation to ensure proper disposal. Regulated host tree materials that are not infested cannot be moved outside of regulated areas, either, unless they have been chipped to one inch or less in two dimensions.

Table 17a				
Area of Concern	Commentors	Relevant Comments	Response	
Constitutional Rights	Susan Reid, CLF	1)The PRE Project would deprive the people of Springfield and the surrounding area of their right to clean air which is a fundamental human right and in MA it is a constitutionally protected right pursuant to Article 97. It is particularly important given that the plant is in an environmental justice community that already is significantly overburdened with air pollution and corresponding environmental and public health impacts.	<p><u>Civil Rights</u>: The Department agrees that the project is subject to Title VI of the Civil Rights Act of 1964 and the Department has taken into consideration whether the PRE project will have discriminatory effects on adjacent environmental justice communities to address EPA’s environmental justice obligations.</p> <p>The Department’s review and analysis of the PRE project has determined that the project will not impose a disparate impact on minority populations in Springfield. In addition to the numerous mitigation measures which have been incorporated into the Plan Approval. The Plan Approval requires the PRE project to meet every applicable state and federal air permitting standard. Standing alone, the PRE project cannot be said to have a disparate impact on the community, and it is pure speculation that potential, future projects will, cumulatively, have a disparate impact on minority populations in Springfield</p> <p>EPA Guidance regarding its regulations implementing Title VI indicates that EPA’s acceptance of complaints alleging disparate impact is limited, except in rare instances, to cases only in which the permitted facility at issue is one of several facilities, which together present a cumulative burden or which reflect a pattern of disparate impact. The Department does not believe that the PRE project will contribute to or compound a preexisting burden being shouldered by the community, such that the community’s cumulative burden is disproportionate when compared with other communities. Further, EPA Guidance also considers mitigation as a remedy for any potential or real disparate impact, and the Department believes that the mitigation measures that will be implemented will be sufficient to blunt any impact. As noted in the “Certificate of the Secretary of Energy and Environmental Affairs on the Notice of Project Change” dated November 19, 2011, the Plan Approval requires the PRE project to meet every applicable air permitting standard and further requires measures to avoid, minimize and mitigate impacts to the maximum extent feasible.</p>	
	Margaret Sheehan, Esq., Biomass Accountability Project	2) “Any air pollution permit issued will constitute a violation of Title VI of the Civil Rights Act of 1964.” The permit will have an unlawful disparate impact on nearby minority populations and if issued will violate Title VI of the Civil Rights Act of 1964.		
		3) Any air pollution permit for PRE that allows emission of PM2.5 and smaller, dioxin, and /or mercury violates the public’s right to a clean environment and freedom from noise as provided under Article 49 (as incorporated into Article 97) of the Massachusetts Constitution. As such the permit would be a violation of the Constitution and unlawful.		
	Ben Rajotte, Haverhill, Attorney for STIS	4) The MassDEP permit contravenes the constitutional right to clean air. 5)MassDEP’s permit contravenes the state’s obligations under Title VI Civil Rights Act of 1964		
	Stephen Kaiser, PhD	6)MassDEP has given minimal attention to the Massachusetts State Constitution. DEP regulations allowing for additional emissions from energy plants are a violation of Article 97 and its promise to protect clean air.		

Table 17b	Commentors	Relevant Comments	Response - Continued
Area of Concern			
Constitutional Rights			<p>(continued from Table 17a.)</p> <p><u>Constitutional Right to Clean Air</u>: The Department does not agree that any source that will emit a pollutant cannot be permitted because to do so would violate the right to clean air contained in the state constitution. If that were the case, then all air permits issued by the Department would be unconstitutional. The fact that the legislature has enacted various statutes empowering the Department to regulate activities that impact the environment evidences a contrary conclusion. The Department believes that PRE project Plan Approval is protective of the environment and human health.</p> <p>The Supreme Judicial Court has recognized that the right to clean air as set forth in the state constitution reflected "the growing concern for the environmental quality of life." <u>John Donnelly &amp; Sons, Inc. v. Outdoor Adver. Board</u>, 339 N. E. 2d 709, 717 (Mass. 1975). In order to protect the right to clean air set forth in Article 97 of the Massachusetts constitution, the Massachusetts legislature has enacted a variety of statutes to enable to Commonwealth to protect this right while allowing activities that potentially could impair that right. Among these are the Massachusetts Environmental Policy Act (MEPA), M.G. L. c. 30, §§ 61-62I; M.G. L. c. 21A, § 8, and the Massachusetts Air Pollution Control Laws, M.G.L. c. 111, §142A-142M. In reviewing the Plan Approval for the PRE project, the Department is mindful of its mandate in § 8 of c. 21A to "act to minimize and prevent damage or threat of damage to the environment". The Department has harmonized that mandate with the broad grant of authority given to the Department under the Air Pollution Control Laws by ensuring that the PRE project meets all applicable federal and state requirements and standards, and by requiring numerous mitigation measures.</p>

<b>Table 18</b>			
<b>Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response</b>
<b>Wood Storage Potential Fires</b>	Claudia Hurley, Westfield	1) There does not appear to be any consideration of the potential of fire or explosions or emissions of methane gas because of wood storage at the site. Emissions of toxic pollutants and CO2 from the wood supply should be investigated.	The risk of fire and decomposition of the wood storage pile was evaluated during the review of the storage and wood reclaim operation. As specified in the non-major comprehensive plan approval, the storage area can only store a 5,000 ton pile (approximately a 4.5 day supply of wood fuel). In addition, the type of storage and reclaim operation will prevent fuel which was first delivered/processed from ending up at the bottom of the pile. Having a limited 4.5 day supply for wood storage and a first in/first out handling process, the risk of fire from decomposition of the wood storage pile has been addressed and reviewed.
	Mike Hurley, Westfield	2) The permit never mentions the risks of fire in the wood storage/processing areas.	
	Stephen Kaiser, PhD	3) There is no mention of potential for fire potential anywhere with the PRE plant or restrictions/precautions to avoid it.	

<b>Table 19</b>			
<b>Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response</b>
<b>Ammonia</b>	Susan Reid, CLF	1) There is no worse case release plan for ammonia. The Approval is inadequate because it does not address the risks posed by storage of large quantities of ammonia at the project site. PRE must provide an emergency response plan pursuant to the general duty clause of the Clean Air Act.	<p>The ammonia used on site will be used at a concentrations of less than 19.5% and therefore the ammonia storage facilities will not be subject to the EPA's Accidental Release Program under 40 CFR Part 68. However, the "general duty clause" of Section 112(r) of the Clean Air Act requires facilities to identify hazards that may result from accidental releases, to design and maintain a safe facility, and to minimize the consequences of releases when they occur. To satisfy this requirement, the aqueous ammonia will be stored in an aboveground 14,000 gallon double-walled aqueous ammonia storage tank. The tank and the ammonia pump skid will be situated within a concrete diked area which is able to contain 110% of the volume of the tank. To minimize evaporation in the highly unlikely event of a release into the diked area, multiple layers of passive evaporative controls (plastic ball-like baffles) will be installed to reduce the surface area by 90%. In addition, a worst-case accidental release scenario was performed to evaluate the potential health impacts at the nearest public receptor of a release of the entire contents of the tank into the surrounding concrete dike. The results of the ALOHA Model (Areal Locations of Hazardous Atmospheres) indicate that in the event of a worst-case release, the ammonia concentration will not exceed the Emergency Response Planning Guidelines level of 200 ppm at any offsite public receptors such as residences, institutions, parks, recreational areas, major industrial, commercial, or office buildings.</p> <p>In the event that ammonia is released, condition #9 of the Reporting Requirements in the non-major comprehensive plan approval requires that Palmer Renewable Energy, LLC shall notify MassDEP immediately by telephone and in writing within three (3) business days, following the release or the threat of a release of ammonia, and/or upsets, emergencies or malfunctions to the ammonia handling or delivery systems, and comply with all notification procedures required under M.G.L. c. 21 E - Spill Notification Regulations, and the Massachusetts Contingency Plan, 310 CMR 40.000.</p>
	Claudia Hurley, Westfield	2) The enormous amount of ammonia that is stored on the premises is a serious risk. Risks of ammonia "slip" are unacceptable.	

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<b>Table 20</b>			
<b>Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response</b>
<b>Off-Site Wood Storage</b>	Claudia Hurley, Westfield	1)The offsite fuel storage facility was not addressed in the air permit.	PRE does not own an off-site wood storage facility and has not proposed to have one. Off-site wood storage would be owned by private, contract individuals or municipalities and subject to the nuisance laws of state and local governments.
	Stephen Kaiser, PhD	2) The location of the off-site wood storage pile has not been identified, nor is its fire potential addressed.	

Table 21			
Area of Concern	Commentors	Relevant Comments	Response
Environmental Justice	Donald Carr, Springfield	1) "Another large polluter is an unfair burden on an area designated as an environmental justice community." The EJ community must be considered in the development of mitigation measures, based on adequate Health Impact Assessments	<p>The EOOEA EJ Policy is used to implement the federal Title VI of the Civil Rights Act. The EOOEA Environmental Justice Policy addresses two areas of enhanced reviews to address environmental justice concerns:</p> <ol style="list-style-type: none"> <li>1) Enhanced Public Participation; and</li> <li>2) Enhanced Analysis of Impacts and Mitigation</li> </ol> <p>Although the area in which the project will be constructed is an environmental justice (EJ) community, the PRE project is not subject to the EJ Policy because it does not trigger MEPA thresholds. Secretary Bowles indicated in the Notice of Project Change (NPC) Certificate dated 11/19/10 that projects proposed in this area must meet every applicable air permitting standard and that projects be required to avoid, minimize and mitigate environmental impacts to the maximum extent feasible. The Notice of Project Change (NPC) Certificate stated that the project meets this high standard and that the air quality permitting process will require its implementation, which it has.</p> <p>In addition, Secretary Sullivan's letter dated 3/31/11 states that the EJ Policy, with respect to MEPA review, proscribes when "enhanced public participation" is required for projects undergoing MEPA review (i.e. any project that exceeds an ENF threshold for air, solid and hazardous waste or wastewater and sewage sludge treatment and disposal) and when "enhanced analysis of impacts and mitigation" is required in an EIR scope (i.e. a project that exceeds an EIR threshold for air, solid and hazardous waste or wastewater and sewage sludge treatment). The project currently does not exceed any MEPA review threshold for air, solid and hazardous waste or wastewater and therefore is not subject to the EJ Policy.</p> <p>Although PRE is not subject to the EJ Policy, as indicated in the Certificate on the NPC dated 11/19/10, PRE has complied with the enhanced public participation requirements of the EJ Policy by publishing A Notice of Public Comment and Notice of Public Hearing in The Republican and The Reminder on March 7, 2011, and a Spanish version of the notice in the El Pueblo Latino on March 10, 2011. The Department also listed in the Spanish public notice that a Spanish version of the draft non-major comprehensive plan approval would be made available upon request. A Public Hearing was held at John J. Duggan Middle School in Springfield on April 5, 2011 and the deadline for public comments was extended from April 9, 2011 to April 29, 2011. PRE has also committed to the following mitigation measures:</p> <ul style="list-style-type: none"> <li>• provide \$2 million to the City of Springfield to address existing health impacts in Springfield and provide other community benefits. –See NPC Certificate dated 11/19/10</li> <li>• the use of biodiesel for the yard front-end loader.</li> <li>• encourage the use of biodiesel by fuel delivery and ash haul trucks.</li> <li>• the installation of a solar photovoltaic (PV) array with an approximate capacity of 135 kW on the roof of the fuel storage shed to provide onsite power.</li> <li>• the use of refrigerants with low ozone depletion potential.</li> <li>• establish a goal of a 50% reduction in construction debris.</li> <li>• continue to explore the incorporation of cogeneration at the site and conduct a district energy prefeasibility assessment to identify potential users.</li> <li>• diesel retrofits for truck fleets delivering feedstock and /or retrofits of municipal fleets.</li> <li>• the use of post-construction air monitoring at the property perimeter. PRE has agreed to establish three separate PM<sub>2.5</sub> air quality monitors, two NO<sub>2</sub> air quality monitors and a permanent meteorological (met) station.</li> </ul>
	Tim Allen, Springfield City Council	2) "We are an environmental justice community and there is no environmental justice being done here." "We need a report on the Environmental Justice requirements."	

<b>Table 22</b>			
<b>Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response</b>
<b>DEP Staff</b>	Richard Halpin, Indian Orchard	1)"DEP does not have enough staff to police this."	This concern is not directly relevant to the issuance of the non-major comprehensive plan approval. However, MassDEP is confident that it will be able to strictly enforce any and all requirements and standards included in the non-major comprehensive plan approval.
	Patrice Pare', Springfield	2) DEP may not have adequate staff to enforce regulations and monitor wood supply.	
	Stephen Kaiser, PhD	3)Reduced staffing levels will impede MassDEP's regulatory and enforcement functions.	

Table 23a			
Area of Concern	Commentors	Relevant Comments	Response
Other	Steven Dzubak, Springfield	1)"PRE should not be allowed to provide fly ash or bottom ash to Palmer Paving for use in paving materials. If this were to occur, then the argument can be made that the facilities have a direct connection and therefore, the emissions of both sources should be combined in the air permit process."	If Palmer Paving were to use fly ash or bottom ash from PRE, a Beneficial Reuse Determination must first be obtained prior to use by Palmer Paving.
		2)"...the EPA is in the process of considering new ambient air quality standards for criteria pollutants under the Clean Air Act, including particulate matter. Any permitting of the plant should await the setting of the new EPA standards given that the plant will automatically be grandfathered once it is built."	MassDEP can only apply regulatory standards which are currently in place. EPA has yet to propose any new standards for PM2.5. However, if the PM2.5 24-hour standard were to be revised and strengthened to 30 ug/m <sup>3</sup> then there is still a margin of protection provided as stated in the letter dated April 11, 2011, from MassDEP to Helen R Caulton- Harris, Director, Division of Health Services for the City of Springfield.
	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society, Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition, Form Letter Submittals, Geoff Brown-RN, South Deerfield	3) The permit should be suspended until the EPA has finalized new air quality standards, including those for fine particulate matter and until the Springfield Public Health Council has completed its site assignment process.	
	Claudia Hurley, Westfield	4)MA should hold up all permits of biomass plants and other emitters of particulate matter until the EPA can finalize its inclination to revise/clarify these restrictions.	
	Glen Ayers, Leverett	5) DEP should administratively withdraw the draft air pollution permit until after the necessary health studies are designed and completed, including completion of the appropriate site assignment process by the Springfield Public Health Council.	This concern is not relevant to the issuance of the non-major comprehensive plan approval. However, the NPC included a health risk assessment which found no risks. The Department of Public Health commented on the NPC and the Secretary's Certificate, dated November 19, 2010, incorporated their comments. In addition, the project meets the health-protective NAAQs. MassDEP also understands that the mitigation funds paid to the City of Springfield will be used to fund projects to address existing health impacts in Springfield and provide other community benefits. Additional review by the Springfield Public Health Council is beyond the scope of the non-major

			comprehensive plan approval application.
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<b>Table 23b</b>			
<b>Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response</b>
<b>Other</b>	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society, Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition, Geoff Brown-RN South Deerfield	6) Hourly monitoring data should be made available on any web publication of emissions data.	The publication of monitoring data is specified in condition #24 of the monitoring requirements in the non-major comprehensive plan approval.
		7) PRE should pay for health metric monitoring in surrounding communities. This should include asthmatic attack rates at school, hospitalizations for cardiac and respiratory incidents and missed school days.	PRE has already committed, as stated in the NPC Certificate dated 11/19/10, to provide \$2 million to the City of Springfield to address existing health impacts in Springfield and provide other community benefits.
	James K.C. Wang, M.D., FACOG, CCD, President Hampden District Medical Society, Stuart Warner-Stop Toxic Incineration in Springfield, Katie King-American Lung Association, Matthew Sadof, MD- Pioneer Valley Asthma Coalition, Geoff Brown-RN South Deerfield, Sylvia Broude, Toxics Action Center	8) The plan approval should include a mechanism so the plant can be taken offline during periods when air quality for ozone or particulate matter reach unsatisfactory levels.	MassDEP has the authority to prevent ambient air contaminant concentrations at any location in the Commonwealth from reaching levels which would constitute significant harm, or imminent and substantial endangerment to the health of persons in accordance with 310 CMR 8.00: The Prevention and/or Abatement of Air Pollution Episode and Air Pollution Incident Emergencies.
	Lee Ann Warner, Stop Toxic Incineration in Springfield	9) The permit does not take into account how air quality violations will be dealt with and the community should be apprised of violations.	MassDEP enforces it's regulations in accordance with its statutory and regulatory authority and in accordance with the Massachusetts Enforcement Response Guidance Document. In addition, under the air regulations, 310 CMR 7.52, cities and towns also have authority to enforce certain sections of the air regulations, especially with respect to nuisance violations.
Claudia Hurley, Westfield	10) There are no consequences for non compliance that could have devastating effects on the people in the area		

<b>Table 23c</b>			
<b>Area of Concern</b>	<b>Commentors</b>	<b>Relevant Comments</b>	<b>Response</b>
<b>Other</b>	Linda E. Blake	11) There is also the issue of waste product disposal. Has there been thought about the dioxins this plant will be emitting and ways to dispose of these and other waste products from the business?	Fly ash, as well as bottom ash, will be shipped offsite for disposal or beneficial reuse by means of a covered truck or maintained onsite for beneficial reuse as may be approved by MassDEP. Any beneficial reuse would require a Beneficial Use Determination (BUD) from the Bureau of Waste Prevention.
	Claudia Hurley, Westfield	12) The ash is a potential hazard. The fate of the ash should be completely determined before the plant is built and ash created.	All ash which is shipped off site for disposal will be disposed of as solid waste in accordance with the Bureau of Waste Prevention Solid Waste Regulations.
	City of Springfield	13) It is unclear whether a Beneficial Reuse Determination process is required prior to transporting ash off-site for land application and/or whether a BUD is required just for storing and utilizing it as aggregate in the asphalt production process. BUD process comments.	If PRE wishes to obtain a BUD for any reason, the application will be reviewed by the Bureau of Waste Prevention. Prior to obtaining a BUD, the ash must be disposed of as solid waste.
	Margaret Sheehan, Esq., Biomass Accountability Project	14) The project is an incinerator and the siting and environmental analysis of the project has failed to comply with state and local laws for siting an incinerator and or solid waste facility	PRE has proposed to only burn clean wood and not solid waste, therefore it is not necessary for the facility to receive a site assignment.
	Alexandra Dawson	15) When PRE is constructed there will be temptation to become a major source, use whole trees of any kind; throw in some C&D, get lax on emissions and all the other ills that biomass plants are heir to. Is there any way MassDEP can demand PRE to pay for independent monitoring?	MassDEP has the authority to take samples for analysis of the wood fuel at PRE and/or municipal wood facilities and private wood yards pursuant to condition #17 of the testing requirements in the non-major comprehensive plan approval.
	Stephen Kaiser, PhD	16) DEP should be expeditiously informed of any fire, explosion or other health and safety emergency occurring at the plant. DEP should have full information on any safety problem.	Pursuant to reporting requirement condition #8 of the non-major comprehensive plan approval, Palmer Renewable Energy, LLC shall notify MassDEP immediately by telephone and in writing within three (3) business days of any upset, emergency or malfunction, when the upset, emergency or malfunction may cause emissions to the ambient air that exceed any emission limits including noise limits contained herein; or cause a condition of air pollution, or otherwise violate a term or condition of this approval.