AMERICAN LUNG ASSOCIATION®
IN GEORGIA

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Michael G. Noll, Ph.D.
2305 Glynndale Dr
Valdosta, GA 31602

Dear Dr. Noll:

The American Lung Association has significant concerns regarding the proposed biomass plant and the potential effects the pollution it generates could pose for children, older adults and at-risk groups, like those suffering from lung diseases such as emphysema and asthma, as well as people with diabetes and heart disease.

Burning wood, or burning any substance, releases toxic chemicals and particles into the air which affect both the environment and respiratory health. Biomass, even biomass comprised of wood, sounds benign, but it is not. A recent review of available research in *Inhalation Toxicology* summarized some of the reasons why it is not:

> Woodsmoke contains thousands of chemicals, many of which have well-documented adverse human health effects, including such commonly regulated pollutants as fine particles, CO, and nitrogen oxides as well as ciliatoxic respiratory irritants such as phenols, cresols, acrolein, and acetaldehyde; carcinogenic organic compounds such as benzenes, formaldehyde, and 1,3, butadiene and carcinogenic cyclic compounds such as PAHs. Woodsmoke contains at least five chemical groups classified as known human carcinogens by the International Agency for Research on Cancer,[1] others categorized by IARC as probably or possible human carcinogens, and at least 26 chemicals listed by the U.S. EPA as hazardous air pollutants.[2]

Particulate matter (PM) emissions are the most significant health threat from biomass power plants. Without proper controls, combustion of wood and wood wastes for power production can result in PM emissions that are more than 20 percent higher than emissions from a coal plant. Emissions of carbon monoxide and volatile organic compounds (VOCs) can be more than 400 percent and 2,000 percent higher than emissions from a coal plant, respectively.[3]

Additionally, diesel equipment critical to plant operation, like the trucks delivering wood or removing ash, threatens to add significant pollution to homes near roadways throughout nearby communities. A constant supply of combustion fuel is needed requiring trucks to make multiple, daily trips to and from the plant. The age of the vehicles and idling practices will also have a significant impact on the level of pollution emitted, and increase the potential damage to air quality and the health of those nearby.

PM (like that emitted from diesel engines and biomass facilities) can damage the body in multiple ways. A recent review of the research on how particles cause harm found that the body responds to particles in similar ways to its response to cigarette smoke. These findings help explain why PM can cause heart attacks and strokes.[4]

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Breathing high levels of particle pollution day in and day out also can be deadly, as landmark studies in the 1990s conclusively showed.[5] Chronic exposure to particle pollution can shorten life by one to three years.[6] Other impacts range from premature births to serious respiratory disorders, even when the particle levels are very low.

The Environmental Protection Agency released the most thorough review of the current research on particle pollution in December 2009.[7] The Agency had engaged a panel of expert scientists, the Clean Air Scientific Advisory Committee, to help them assess the evidence, in particular research published between 2002 and May 2009. EPA concluded in the published Integrated Science Assessment that particle pollution caused multiple, serious threats to health. Specifically the findings concluded that particulate matter:

- Causes early death (both short-term and long-term exposure);
- Causes cardiovascular harm (e.g. heart attacks, strokes, heart disease, congestive heart failure);
- Is likely to cause respiratory harm (e.g. worsened asthma, worsened COPD, inflammation);
- May cause cancer; and
- May cause reproductive and developmental harm.

It should be noted that there appears to be a pattern nationwide of biomass plants being proposed for rural areas away from cities, where less protective pollution control restrictions and weaker permitting requirements apply. Plant proponents will say that they "meet the air pollution requirements," but the requirements themselves tend to be more lax.

The American Lung Association supports measures to ensure the reduction or elimination of air pollution emissions from stationary sources, especially from power plants, biomass plants, as well as industrial, commercial and institutional boilers. We support stringent emissions control requirements for these sources at the federal, state and local levels.

The American Lung Association is dedicated to saving lives through healthy air and healthy lungs for all Georgians. We urge the leaders of Lowndes County to consider the potential negative health effects as this issue is considered. If a biomass plant is approved, then the American Lung Association urges that the plant should be required to do the following:

- Install and use the state-of-the-art pollution control equipment, including best available pollution control technologies;
- Use diesel vehicles and equipment, including in-plant equipment such as emergency generators, that meets current EPA requirements for clean diesel equipment and fuel. Require any supplier to comply with those requirements as part of the contract with the supplier; and
- Maintain and enforce an anti-idling policy.

The people of Georgia deserve that protection.
Sincerely,

June Deen, State Director, American Lung Association in Georgia

[1] International Agency for Research on Cancer. *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:* Household Use of Solid Fuels and High-temperature Frying. Volume 95, 2010. http://monographs.iarc.fr/ENG/Monographs/vol95/index.php.
[2] Naeher, Luke P, Michael Brauer, Michael Lipsett, Judith T. Zelikoff, Christopher D. Simpson, Jane Q. Koenig, Kirk R. Smith. "Woodsmoke Health Effects: A Review." *Inhalation Toxicology*. January 2007. http://informahealthcare.com/doi/abs/10.1080/08958370600985875.
[3] Washington Department of Natural Resources (WDNR 2010). *Forest Biomass and Air Emissions*. Accessed September 2010. http://www.dnr.wa.gov/Publications/em_forest_biomass_and_air_emissions_factsheet_8.pdf
[4] van Eeden SF, Yeung A, Quinlam K, and Hogg JC. Systemic Response to Ambient Particulate Matter: relevance to chronic obstructive pulmonary disease.*Proc Am Thorac Soc.* 2005; 2:61-67.
[5] Dockery DW, Pope CA III, Xu X, et al. An Association Between Air Pollution and Mortality in Six U.S. Cities. *N Engl J Med.*1993; 329:1753-1759.Pope CA, Thun MJ, Namboodiri MM, et al. Particulate Air Pollution as a Predictor of Mortality in a Prospective Study of U.S. Adults. *Am J Respir Crit Care Med*.1995; 151:669- 674.
[6] Pope CA III. Epidemiology of Fine Particulate Air Pollution and Human Health: biological mechanisms and who's at risk? *Environ Health Perspect* 2000; 108: 713-723.
[7] U.S. Environmental Protection Agency, *Integrated Science Assessment for Particulate Matter,* December 2009.EPA 600/R-08/139F.