

Clean Air Forum

*An Ad Hoc Publication of the West Virginia Department of Environmental Protection, Division of Air Quality
Winter 2003*

LAW MANDATES LESS SCHOOL BUS IDLING POLICY UNDER DEVELOPMENT

There is an effort to make school buses, the safest form of ground transportation in the U.S., even safer. The 2003 session of the West Virginia Legislature passed a bill requiring the state Board of Education to develop a policy regarding the idling of school buses. Recent studies have linked school bus exhaust to asthma in children, as well as showing that it can contribute to other acute and chronic health effects. House Bill 2961 was passed by the Legislature on March 8, 2003, and was signed by Governor Wise on April 1, 2003. The West Virginia



Department of Education's Office of Transportation has written an anti-idling policy for school buses in West Virginia. The latest draft of the West Virginia policy, based on anti-idling policies from Maine and Connecticut, states:

- In normal weather a school bus driver shall not idle the bus while waiting for or loading students.

Windows on the bus are to be closed until the bus leaves the school zone.

- Buses will be allowed to idle when the temperature is 40 degrees Fahrenheit or colder, when the driving windows need to be defrosted, when the safety and comfort of the students is in question, or when emergency dictates.

- School bus operators are prohibited from idling the buses for more than 10 minutes unless defrosting of windows is needed.

David Deutsch,

Program Manager of the Asthma Education and Prevention Program of the West Virginia Department of Health and Human Resources wrote a position paper expressing support for the West Virginia Office of Transportation's anti-idling policy for school buses in West Virginia. An excerpt of this position paper follows: *(continued on page 5)*

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Visit the Division of Air Quality's website at: www.wvdep.org/daq

DIESEL EMISSIONS & ASTHMA: WHAT'S THE LINK?

Breathing in particles from vehicle exhaust isn't good for anyone, but especially not for West Virginia students who have asthma. Asthma is a chronic lung disease that is characterized by recurrent respiratory symptoms such as coughing, wheezing, breathlessness, chest tightness and variable airflow obstruction. Children can have an asthma attack when they are exposed to triggers such as pet dander, dust, mold, second-hand smoke and exhaust fumes.



Earlier this year, state officials reported that more than 32,000 West Virginia middle and high school students have at some point been diagnosed with asthma. Of those students who indicated that they have had an attack within the last year, more than 20 percent reported they missed more than 11 school days in the past year, according to "The Burden of Asthma in West Virginia."

As an advocate for West Virginia students with asthma, West Virginia Asthma Coalition members want to make all West Virginia schools asthma friendly. Part of that plan is to reduce students' exposure to diesel fuel emissions. WVAC and the American Lung Association of West Virginia support an anti-idling policy at every school in the state. It's good for drivers, students and the environment.

In October, researchers reported organic carbon and nitrogen dioxide (both found in diesel fuel emissions) as potential causes of chronic bronchitis in children with asthma. Children with a history of wheezing during the year before the study or those with allergies in the past were more likely to report bronchitis symptoms, according to the study published in American Journal of Respiratory and Critical Care Medicine.

Help keep our students safe while they're at school. Turn off your engine when you drop off or pick up your child and ask that school bus drivers not sit idling in front of the school, creating a mass of diesel fuel emissions.

The American Lung Association of West Virginia is a WVAC member and supports the anti-idling policy. But as a non-profit organization that supports the lung health of all West Virginians – and especially children with asthma –

ALAWV independently supports this grassroots effort. Reducing school bus idling has many benefits and improves air quality for everyone. Not only does it protect the health of bus drivers and students, it reduces the air pollutants that contribute to smog, fine airborne particle formation and global warming. It also reduces fuel consumption and saves money. So please join us and help spread the word to "Turn Off Those Engines."

The **West Virginia Asthma Coalition**, or WVAC, is a diverse group working to reduce the burden of asthma in our state. Through the Coalition, doctors, nurses, respiratory therapists, parents of children with asthma and patients with

asthma learn more about the disease that causes more than 174,000 West Virginians to suffer.

The coalition meets four times a year in different locations throughout the state. We currently have more than 140 individual members who represent more than 60 organizations, including all the major hospitals in the state, Marshall University, West Virginia University, the American Lung Association of West Virginia, the Department of Health and Human Resources, the Asthma and Allergy Center, West Virginia Health Care Authority, West Virginia Hospital Association, West Virginia School of Osteopathic Medicine, University of Charleston, Bluefield State College and several local health departments. Members join one of five committees which are Asthma Management, Community Outreach and Education, Environment, Data Sharing, and Schools and Pediatrics. Through the committees, members work on projects that promote asthma awareness and work with schools to ensure children can carry their inhalers.

By Rachelle Bott - WVAC Program Manager



West Virginia Asthma Coalition
Helping West Virginians with Asthma Breathe Easier



If you are interested in joining the Asthma Coalition or know someone who is, please fill out the slip below and mail with your \$10 membership fee to the American Lung Association of West Virginia, Attn: Rachelle Bott, P.O. Box 3980, Charleston, WV 25339, Phone (304) 342-6600.

Name: _____

Title: _____

Organization: _____

Phone: _____

Address: _____

E-mail: _____

Committee choice: _____



CLEAN ALTERNATIVE FUELS: BIODIESEL

In 1895 Dr. Rudolf Diesel developed the “diesel” engine with the intention of running it on a variety of fuels, including vegetable oil. In fact, when Dr. Diesel demonstrated his engine at the World Exhibition in Paris in 1900, he used peanut oil as fuel. Since that time, however, the diesel engine has been modified to run on petroleum-derived fuel (petrodiesel) because historically it was the least expensive fuel available.

Today, the diesel engine is still capable of running on “biodiesel” fuel, which can be produced from a variety of renewable sources, including soybean oil, canola oil, sunflower oil, cottonseed oil, and animal fats. These sources can be obtained from agricultural feedstocks or by recycling used oil such as cooking grease. Most biodiesel produced in the United States is made from soybean oil due to this feedstock’s abundance.

Biodiesel is usable in its pure form, known as “neat biodiesel” or B100. In addition, it is available in various blends with petrodiesel, the most common of which is known as B20 (20 percent biodiesel and 80 percent petrodiesel). It is also used in smaller percentages as a lubricating fuel additive.

Availability

The biodiesel industry is continually expanding. In 1996, only two companies were registered as biodiesel suppliers; in 1999, that figure had climbed to 13. Together, these companies have invested millions of dollars in developing biodiesel manufacturing plants. In addition, two major U.S. vehicle manufacturers have begun biodiesel research initiatives.

Biodiesel is one of the only alternative fuels usable in any conventional diesel engine with little or no modification to the engine or fuel system. More than 40 federal and state fleets are already using biodiesel blends in their existing diesel engines. In West Virginia, biodiesel is currently being used by the **Marion and Monongalia County** school systems.

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Nationally, the US EPA is leading efforts to clean up diesel emissions to the air. One of these programs is “Clean School Bus USA.” The goal of Clean School Bus USA is to reduce both children’s exposure to diesel exhaust and the amount of air pollution created by diesel school buses.

- 24 million children ride the school bus every day.
- On average, students spend an hour and a half each weekday in a school bus.
- School buses drive more than 4 billion miles each year.

Some Useful Websites

www.epa.gov/otaq/schoolbus/
www.epa.gov/otaq/schoolbus/humanhealth.htm

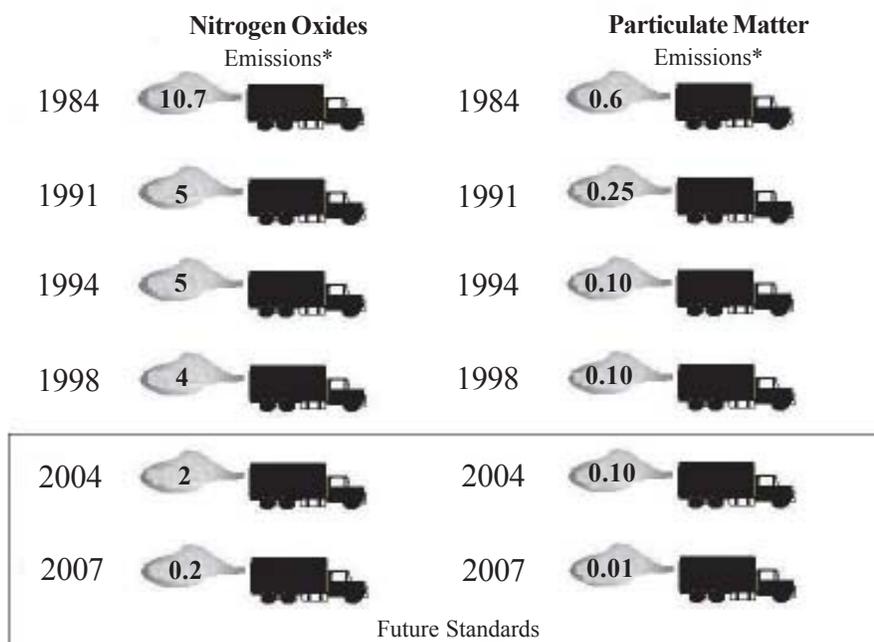
WHAT IS GOVERNMENT DOING TO REDUCE DIESEL EMISSIONS?

Diesel engines are a durable and economical source of power. EPA and states are taking important steps to advance cleaner diesel engines. EPA is requiring reductions of diesel pollution from new heavy-duty diesel trucks and buses. In 2006, diesel fuel will contain 97 percent less sulfur. This ultra-low sulfur diesel fuel in combination with advanced pollution control technology will mean that in 2007, new trucks and buses rolling off the production lines will be up to 95 percent cleaner than today's models.

EPA has issued emission standards for new, non-road diesel engines, such as construction and farm equipment, and is working to strengthen these standards in the future. Engines within the existing fleet will not be subject to the new regulations, yet may remain in operation for another 25 to 30 years. Therefore, EPA and states are working to:

- Retrofit existing diesel vehicles with pollution controls.
- Implement emission testing programs for diesel vehicles.
- Create and implement anti-idling programs.
- Promote cleaner fuels like ultra-low sulfur diesel and compressed natural gas.

EPA STANDARDS FOR NEW TRUCKS AND BUSES



*EPA's emission standards for trucks and buses are based on the amount of pollution emitted per unit of energy (expressed in grams per brake horsepower hour).

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SUMMERS COUNTY SCHOOLS . . . AHEAD OF THE CURVE

Picture this scene in your mind: 22 yellow school buses are parked, engines silent, at the Summers County High School. When the students are dismissed, the bus drivers start the engines. All students go immediately to their buses or personal vehicles. While the buses are loading, the students driving their own cars leave the campus. The buses are ready to depart in about eight minutes.

Meanwhile, four more buses are loading students from the Hinton Area Elementary School and leave for their next stop, the Summers County Middle School. These buses are on their route taking the students home before the first group of six buses from the high school arrive. The buses arrive in groups of six for loading students.

The middle school students are waiting in the auditorium until they hear their bus number called. After these buses are loaded, the next group of six

pulls up in front of the school for their passengers. In about three minutes, each set of buses is ready to depart. Total time for all buses is about 10 minutes.

This just made sense to turn off the bus engines when they did not need to be running, with the added benefit of saving fuel.

Several years ago, the Transportation Director received a communication from the state about the contributing effects of diesel fumes toward respiratory diseases, such as asthma. At that time the drivers were encouraged to reduce idling as much as possible by turning off their bus engines whenever feasible. This just made sense to turn off the bus engines when they did not need to be running, with the added benefit of saving fuel.

With the new state regulations for reduced idling of buses, Summers County Schools expects to have very few adjustments to make in its current plan to be in compliance with upcoming anti-idling policy.

By Marcia Leitch - State Coordinator, WVIGCCC

LAW MANDATES LESS SCHOOL BUS IDLING *(Continued from page 1)*

The West Virginia Asthma Education and Prevention Program (WVAEPP) supports the position that school bus idling should be limited during periods of student loading and unloading, in the interest of protecting the health of students with asthma. Asthma is a chronic lung disease characterized by recurrent respiratory symptoms such as wheezing, breathlessness, chest tightness, coughing, and variable airflow obstruction that is reversible spontaneously or with treatment. Although it is not clear what causes asthma to develop in an individual, we do know that exacerbations of the condition can be triggered by environmental irritants, including diesel exhaust. Some facts about asthma in the West Virginia student population include (the following statistics were taken from the West Virginia

Youth Tobacco Survey):

- In 2002, 23.3% of West Virginia middle school students and 21.1% of high school students (an estimated 32,757 total) indicated that they have at some point been diagnosed with asthma by a doctor .
- In both middle and high schools, about 57% of all students who indicated that they had an attack within the last year (14,099 students) missed one or more school days in that year due to their asthma .
- Among those students who indicated that they had an attack within the last year, over 20% reported that they missed 11 or more school days in the past year due to their asthma.

By Gene Coccari, DAQ and David Deutsch, WVAEPP

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“TURN IT OFF” PROJECT

Students, teachers, bus drivers, and parents now have the opportunity to be involved in the “Turn It Off” project to reduce the idling of vehicles at school. The project helps to create a healthier school environment and can be incorporated into the educational program. A tool kit of resources and ideas for the “Turn It Off” project helps introduce students to the concept of the greenhouse effect, its source, and potential impacts. Students can identify ways in which they can conserve energy and reduce their individual, family, school, and community contributions to harmful pollution and global warming.

Sample Educational Activities:

Arts/Literature Contest among students or classes. Student projects could include categories, such as posters, essays, poetry, drama, puppet shows, songs, dances, etc., all an expression of why it’s important to have no idling vehicles at school.

Pledge Card Campaign led by students asking drivers to pledge to “Turn It Off” when waiting to load and unload students on school campuses (with reasonable consideration for cold weather).

Science/Math Club Projects using the EPA global warming activity kit resources to find ways to reduce contributions to the greenhouse effect. Students can calculate and chart the reduction of emission of greenhouse gases by school buses or family cars while idling at schools.



Student Presentations given at parent-teacher meetings, to other classes or schools, and/or to other community gatherings, in which students demonstrate ways in which they have changed their own or their family’s behavior.

Health Impacts conduct a survey of respiratory-related diseases in your school. Calculate days missed before no idling and days missed after the implementation of no idling.

Student/Driver Partnership to create plans for reduction of idling. Their creative ideas for implementing no idling policies could be shared with other school systems, as models.

The West Virginia Interfaith Global Climate Change Campaign (WVIGCCC), along with their partnering organizations, is encouraging and

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supporting schools to participate in “Turn It Off.”
These partners include:

- ◆ Board of Directors of Covenant House,
Charleston
- ◆ Charleston Interdenominational Council for
Social Concerns
- ◆ Ohio Valley Environmental Coalition
- ◆ St. Paul Evangelical Lutheran Church,
Morgantown
- ◆ Unitarian Universalist Fellowship of the
Kanawha Valley, Charleston
- ◆ The West Virginia Asthma Coalition
- ◆ West Virginia Department of Health and
Human Resources

West Virginia Interfaith Global Climate Change Campaign is individuals, congregations, and regional faith groups (Christians, Jews, Muslims, and other faiths), united by the common belief in the preciousness of all life. The goals of the group have been to educate congregants and the

general public about the causes and effects of global climate change and to relate how important the voice and actions of the faith community are to improve the quality of life for all creation.

If you would like to learn more about the “Turn It Off” project or partner with WVIGCCC on the project, please contact:

Marcia Leitch (State Coordinator)
P.O. Box 226
Talcott, WV 24981-0226
Phone: (304) 466-0982
Fax: (304) 466-4790
E-mail: jmleitch@mountain.net

Tonya Adkins (Regional Coordinator)
5322 Newcomb Rd.
Huntington, WV 25704
Phone: (304) 529-2675
E-mail: adkins233@marshall.edu

To learn more about the West Virginia Interfaith Global Climate Change Campaign, visit the following Websites: www.webofcreation.org and www.protectingcreation.org.

By Tonya Adkins, Regional Coordinator, WVIGCCC

Did you know . . .

Diesel exhaust has been classified by EPA as “likely to be carcinogenic to humans by inhalation” due to its make-up. Diesel exhaust is a complex mixture of hundreds of gases, vapors, liquid aerosols and types of particulate matter (PM). These fumes contain more than 40 substances listed as hazardous air pollutants (HAPs) in Section 112(b) of the 1990 Clean Air Act Amendments. Two of the more hazardous of these HAPs are Acrolein and Benzene.

BERKELEY AND JEFFERSON COUNTIES AGREE TO VOLUNTARY SCHOOL BUS RETROFITS

School officials in Berkeley and Jefferson counties signed agreements with state air regulators to voluntarily reduce diesel emissions from older school buses in their counties. The West Virginia Department of Environmental Protection and Superintendents in the two eastern counties entered agreements which will provide funding to retrofit school bus diesel engines to reduce emissions.

“We are excited about working with Berkeley and Jefferson counties on this project,” said John Benedict, director of DEP’s Division of Air Quality. “The reduction of diesel particulate not only reduces exposure of children and bus drivers to carcinogens, but also to the fine particles associated with these emissions.” Jim Welton, Berkeley County Schools Assistant Superintendent of Finance adds, “Berkeley County Schools welcomes the opportunity to be involved in this initiative. Cleaner air and protecting students is a win-win situation.”

Thousands of West Virginia school children start and end each day riding a school bus. Many school buses on the road today are aging diesel-powered vehicles which may expose students to a greater level of air pollution as they wait for or ride the bus. Children are especially sensitive to air pollution because their lungs are still developing and they have a faster breathing rate.

There are approximately 221 school buses with diesel engines in active service in Berkeley and Jefferson Counties. With rapid population growth in the Eastern Panhandle region of West Virginia, these counties are struggling to provide enough buses to transport students. Older buses are typically used as spares, while the newest and cleanest buses are put into regular service. Berkeley County Schools transport approximately 13,000 students to 26 schools, and Jefferson County Schools transports approximately 7,500 students to 14 schools.

The Division of Air Quality began working with county officials to develop control strategies involving communities to obtain emission reductions in the Eastern Panhandle region. Reducing diesel exhaust is one part of a comprehensive approach to improving air quality. Funding for the project was made available as a result of an enforcement action with Virginia Electric Power Company, now Dominion Resources, Inc., for certain states, including West Virginia.

By Jeanne Chandler - Information Coordinator, DAQ

**Do you know of other West Virginia
County school systems involved in
efforts to reduce emissions and
protect air quality? Send us your
stories!**

*E-mail them to
gcoccari@wvdep.org
or fax them to
(304) 926-3637
Attention: Gene Coccari*

Clean Air Forum

is compiled and published by the
West Virginia Department of Environmental Protection
Division of Air Quality
7012 MacCorkle Avenue, SE
Charleston, WV 25304

Bob Wise
Governor

Stephanie R. Timmermeyer
Cabinet Secretary

John A. Benedict
Director

Gene Coccari
Editor

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