Exhibit J

Fuels and Your Health

A fact sheet by
Cal/EPA's Office of Environmental Health Hazard Assessment and
The American Lung Association of California.

Fuels are part of our lives. They are used to power cars, trucks, buses, trains, garden equipment, boats and snowmobiles, as well as pumps, compressors and generators. We depend on fuels to move freight and perform farm, construction and other labor. Unfortunately, their widespread use means we are exposed to fuels and their emissions on a daily basis.

The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) assesses health risks from toxic substances, including those found in fuels. The American Lung Association of California (ALAC) and its 15 local associations work to prevent lung disease and promote lung health. Since 1904, the American Lung Association has been fighting lung disease through education, community service, advocacy and research.

This fact sheet by OEHHA and the American Lung Association of California (ALAC) provides health information on our two most commonly used motor vehicle fuels, gasoline and diesel fuel.

What harmful substances are found in gasoline and diesel fuel?

Gasoline and diesel fuels contain toxic substances that can enter the environment and cause adverse health effects in people. Some of these substances, such as benzene, toluene and xylenes, are found in crude oil and occur naturally in fuels and their vapors. Other substances, such as 1,3-butadiene and formaldehyde, are formed in engines during combustion and are only present in exhaust.

Other harmful pollutants found in engine exhaust include particulate matter (known more commonly as soot), nitrogen oxides, carbon monoxide, sulfur dioxide and various hydrocarbons. Ozone, the major component of urban smog, is formed when nitrogen oxides react in sunlight with hydrocarbons.

Toxic substances occur naturally in fuels and their vapors

Diesel exhaust is a particular health concern. There are 1.25 million diesel-fueled engines and vehicles operating in California. These diesel vehicles account for only 2 percent of on-road motor vehicles in the state, but they produce 30 percent of the nitrogen oxides and 60 percent of the particulate matter directly emitted from California motor vehicles. Diesel exhaust also contains over 40 different substances identified by the California Air Resources Board (ARB) as toxic air contaminants that may pose a threat to human health. The particulate matter in diesel exhaust has been identified as a toxic air contaminant by ARB, and it has been linked to lung cancer.

How do fuels enter the environment?

The harmful substances in fuels can enter the environment in a number of ways throughout the entire cycle of fuel production, manufacturing, transportation, storage, distribution and usage. Most commonly,

they come out the tailpipes of vehicles as exhaust or unburned fuel. Fuel vapors escape directly from automobile engines and gas tanks, especially on hot days. They can also escape into the air during refueling, or when liquid fuel evaporates from a spill. Fuels can enter lakes and reservoirs through accidental spills or from motorized boats and personal watercraft. Fuels spilled on the ground or leaking from fuel storage tanks can contaminate groundwater. Substances in airborne engine exhaust settle directly onto water, soil and vegetation, or they can be washed down onto these surfaces when it rains. Even groundwater can be contaminated in these ways. Also, fuel components are released into the environment during oil drilling, refining and transportation.

How are people exposed to fuels?

Just breathing the air exposes people to fuel components, especially in urban areas. People are exposed to gasoline and diesel exhaust when they drive or ride in a vehicle, jog or bike along roads or park in a public garage. Motorists are further exposed to gasoline vapors when they fill up their vehicle's fuel tank. People who work in or live near freeways, refineries, chemical plants, loading and storage facilities or other places that handle crude oil and petroleum products may be exposed to higher levels of fuel components than the general public and face higher health risks.

What health effects are associated with exposure to fuels?

Breathing gasoline and diesel vapors can irritate the nose and throat and cause headaches, dizziness, nausea, vomiting and confusion. Of course, most people are not exposed to high enough levels of fuels to become ill in this manner. However, we are all exposed to lower levels of fuel components throughout our lives. This lifelong exposure can increase the risk of adverse health effects.

Both liquid gasoline and motor vehicle exhaust contain chemicals that can cause cancer

Both liquid gasoline and motor vehicle exhaust contain chemicals that can cause cancer. Benzene, a fundamental component of gasoline and diesel fuel as well as vehicle exhaust, causes cancer in humans. Gasoline exhaust also contains cancer-causing 1,3-butadiene, formaldehyde and acetaldehyde. Diesel exhaust contains several dozen toxic substances and scientific studies have shown that workers exposed to diesel exhaust are more likely to develop lung cancer. Long-term exposure to particles in diesel exhaust poses the highest cancer risk of any toxic air contaminant evaluated by OEHHA. ARB estimates that about 70 percent of the cancer risk that the average Californian faces from breathing toxic air pollutants stems from diesel exhaust particles. The microscopic particles making up diesel exhaust particulate matter are less than one-fifth the thickness of a human hair. They are small enough to penetrate deep into the lungs, where they can contribute to respiratory disease.

Gasoline and diesel exhausts contain nitrogen oxides, carbon monoxide and sulfur dioxide. Nitrogen oxides can damage lung tissue, lower the body's resistance to respiratory infection and worsen chronic lung diseases such as asthma. As mentioned earlier, nitrogen oxides react in the atmosphere with hydrocarbons to form ozone, the major component of urban smog. Ozone is a strong irritant to the eyes and respiratory tract. It can make respiratory problems worse for people who already have asthma and other respiratory diseases. Children, senior citizens and people with chronic lung disease, such as Chronic Obstructive Pulmonary Disease (COPD), are especially sensitive to ozone. Ozone also hurts the lungs of healthy people who exercise outdoors when ozone levels are high.

Carbon monoxide is a colorless, odorless gas that limits the blood's ability to transport oxygen to body tissues. Its presence in the body places a strain on people who already have cardiac or respiratory diseases, as well as pregnant women and the elderly.

MTBE

Another concern about gasoline is methyl tertiary butyl ether, or MTBE, which originally was used in gasoline in small amounts to reduce engine knocking. Beginning in the mid-1990s, more MTBE was added to make gasoline burn cleaner and produce less air pollution. MTBE is present in gasoline vapors and in the exhaust.

Pollutants in vehicle exhaust can irritate or damage the lungs

Regulatory agencies for years have required the monitoring of drinking-water wells for benzene and other gasoline components that can enter groundwater from leaking underground tanks. As its use became more widespread in the 1990s, MTBE also began to show up in California drinking water wells that were near leaking underground tanks. Bacteria do not break MTBE down as readily as they do benzene, so MTBE will stay in the water longer. MTBE is also more difficult and expensive to remove than benzene. Even at very low concentrations, MTBE has an unpleasant taste and odor that renders drinking water unusable.

Although not as toxic as benzene, MTBE has been shown to cause cancer in certain laboratory animals and may cause cancer in humans. Because of concerns about MTBE in California's drinking water supplies and its general impact on public health and the environment, Governor Gray Davis ordered the removal of MTBE from California's gasoline by the end of 2002.

Concerns about MTBE also prompted legislation that requires the study of potential health impacts prior to the adoption of any new state gasoline regulations that are intended to improve air quality. OEHHA is developing methods to study the risks that could occur throughout the entire "life cycle" of a fuel, from its production, storage, transportation, dispensing and use, through its recycling and disposal.

What has been done to reduce the public's risk from exposure to fuels?

Over the past two decades, many significant improvements have made both fuels and engines cleaner and far less polluting. Highly toxic lead was removed from gasoline. ARB has established stricter emission standards for gasoline- and diesel-fueled cars, trucks and buses. During the 1990s, ARB required the reformulation of gasoline and diesel fuel to reduce smog-forming and toxic emissions. Health assessments developed by OEHHA have guided ARB in its decisions. Thanks to these changes, pollution levels in many areas of California have decreased substantially in recent years. New vehicle emission standards, which will be phased in during the next several years, are intended to further reduce unhealthy levels of air pollution. However, dramatically rising vehicle usage in California presents a continual challenge to regulatory control efforts and threatens to erode the air quality gains that have been made.

Recent emission standards have reached beyond "traditional" motor vehicles to include motorcycles; outboard boat engines; lawn and garden equipment; and farm, construction and utility equipment. These new requirements will help to reduce harmful emissions from these formerly unregulated engines, which can produce many times the pollution of a late-model automobile.

To protect water supplies from leaking underground fuel storage tanks, federal and state regulations require that old, single-walled tanks be replaced with new, double-lined tanks with leak detectors. The State Water Resources Control Board and nine regional water quality control boards oversee these regulations. In addition, ARB standards for new outboard engines and personal watercraft intended to reduce emissions will reduce fuel releases into water. There are even requirements for new portable gas cans that will help reduce accidental spills.

What more must be done to protect public health?

Despite all of the progress made so far, more than 90 percent of Californians still breathe unhealthy air. The reason is mostly due to motor vehicles. The number of vehicles on the road and the miles they travel continue to grow. Even as older vehicles are replaced with newer, less polluting ones, our progress towards clean air is being eroded by growth in vehicle travel.

California plans to reduce particle emissions from diesel engines 85 percent by 2020

California is continuing to take the lead in developing cleaner fuels and setting stricter emission standards for gasoline and diesel-fueled vehicles and other engines. These programs will help to reduce people's exposure to fuel toxics and smog.

State law requires measures to reduce the public's risk from exposure to toxic air contaminants, including diesel exhaust. ARB has approved a plan to reduce particle emissions from diesel engines by 85 percent by 2020 through measures such as low-sulfur diesel fuel, equipping diesel engines with particulate traps and the use of alternative fuels.

Alternative fuels include electricity, natural gas, fuel cells, ethanol, methanol and propane. All of them have the potential to produce less air pollution than gasoline or diesel fuel. Toxic and smog-forming emissions from electricity, natural gas and other alternative fuel vehicles can be dramatically lower than emissions from conventional vehicles. As a result of ARB regulations, major vehicle manufacturers will be producing increasing numbers of vehicles that run on alternative fuels.

What can I do to help?

Anything you do to reduce the amount of fuel you use will help protect the environment. Bicycle or walk instead of driving. Try riding public transit, carpooling or vanpooling instead of driving alone. Take advantage of any "telework" (work at home) programs your employer may have. If you drive, keep your vehicle well tuned. A properly maintained vehicle contributes less to air pollution and saves you money on gas. Run all your errands at once because a warm engine pollutes less. When refueling your vehicle, don't top off at the gas pump. If the dispensing nozzle is equipped with a hold-open latch, use it and move upwind of the fumes. Close your vehicle's windows to protect any passengers.

When shopping for your next car, look for the most efficient, lowest polluting model or even a zero-polluting electric car. ARB's Web site has a "Clean Car Buyers Guide" with information on low-polluting vehicles. If you must drive on days with unhealthy air, drive your newest car. Newer cars generally pollute less than older models.

When using motorized watercraft, prevent leaks and spills of fuel and oil by properly maintaining the engines, lines and hoses. Don't let the tank overflow and use an oil-only absorbent to clean up any drips. When buying a new outboard engine or personal watercraft, look for engine labels certifying that the equipment meets California's low-emission standards.

Use electric lawn and garden equipment when possible. Reduce, re-use and recycle as much as possible. It takes fuel to produce and ship new goods.

For more information on how you can reduce air pollution, contact the American Lung Association at the phone numbers or Web site address listed below.

For further information

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Air Resources Board
1001 I Street, Sacramento, CA 95814
(800) 363-7664
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State Water Resources Control Board
Division of Clean Water Programs, 1001 I Street, Sacramento, CA 95814
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The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see OEHHA's web site at www.oehha.ca.gov/public_info.html.