



Illinois Environmental Protection Agency Fact Sheet



“Ladies and Gentlemen: Turn Off Your Engines!” What You Should Know About Diesel Truck Idling

FACT: More states and local governments are passing laws or ordinances to limit idling and to get truck and bus drivers to turn off the engine.

Idling has become a major issue with the public, due to the nuisances, public health, and environmental concerns related to parked diesel trucks or buses whose engines are unnecessarily left running. This is especially prevalent at truck stops, at loading docks where product pickup and delivery takes place, and at schools where a large number of trucks or buses are often left idling. The goal of the laws and ordinances is to restrict occurrences of “unnecessary idling” where the engines of parked trucks or buses are left running without any need or purpose.

The State of Illinois passed an idling law (625 ILCS 5/11-1429) effective July 2006 for the air quality nonattainment areas of the state, specifically the Metropolitan Chicago and East St. Louis regions.



The law prohibits a truck or bus from idling for more than ten minutes during any sixty minute period. There are several exceptions to the law, addressing operational needs for when the engine needs to run for a specific purpose. Several municipalities are considering adopting ordinances to address truck idling and to complement the State law as needed. The intent of the law is to ensure that a truck or bus driver shuts the engine off when it is unnecessary for the engine to be left idling.

FACT: Idling is detrimental to the driver and to the public.

For drivers that sleep in their cabs, the noise of the diesel engine often keeps them awake, resulting in poor rest. In addition, driver exposure to the diesel emissions that enter the truck cab is not only a nuisance but it also aggravates existing respiratory problems, increases the risk of future respiratory ailments, and may lead to other types of adverse health conditions. Since an idling truck does not move, the diesel fumes and associated pollutants, including several types of air toxics, build up in and around the truck creating a “cloud” of emissions. If several trucks are parked in the area, this “cloud” can linger and build up to very unhealthy levels, impacting people living in nearby residential areas or visiting nearby businesses. It is not uncommon for exposure to diesel emissions to be higher inside the cab than outside of it. Nationally, the idling of trucks collectively accounts for 11 million tons of carbon dioxide (a greenhouse gas), 200,000 tons of nitrogen oxides (a “smog” or ground-level ozone forming pollutant), and 5,000 tons of particulate matter (the “sooty emissions” coming off the stack) being emitted into the air each year.

FACT: Idling causes increased maintenance costs and engine wear.

An idling engine operates below its optimum temperature, and due to this lower temperature, fuel is not fully burned during the combustion process. The unburned residues contaminate the oil and form deposits within the engine, which can decrease fuel economy up to five percent as well as reduce engine life. In addition, lower engine temperatures resulting from idling allow water to condense within the exhaust pipes and mufflers, leading to premature corrosion. The trucking industry has analyzed the impact of idling on diesel engines, both in terms of maintenance and engine wear costs. Long-duration idling creates the need for more oil and oil filter changes and accelerates the timeframe for scheduled maintenance. Similarly, the longer the idling time and the more frequent the idling, the sooner the engine will need to be rebuilt or replaced.

FACT: A diesel engine will restart after it is turned off.

In the past, drivers were instructed to **NOT** turn off a diesel engine out of concern that the engine would not readily restart. Contrary to these types of idling practices once utilized in the industry with much older engines, diesel engine manufacturers insist that engines will restart after being turned off, and that starter technology has improved so the increased frequency of restarts will not harm the truck’s ignition. This is true of diesel engines of all types and sizes, including the larger engines used in over-the-road trucks. Many drivers still use outdated idling practices prevalent for much older diesel engines and starters when leaving the vehicle unattended, and this practice has long been outdated. Exceptions are noted when the weather is extremely cold and engine block freezing or fuel gelling are a concern, but under typical conditions, diesel engines can be turned off when the driver leaves the truck unattended and readily restarted upon his or her return.

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FACT: Truck drivers idle their trucks primarily for comfort needs.

The engine idles while the truck is parked so that the driver can run the heating or air conditioning in the cab, especially while taking required rest periods or while parked overnight. Even in moderately warm weather, the driver will run the air conditioning in the cab during rest periods or overnight, since leaving the windows open presents a security risk. In extremely cold weather, drivers idle their engines to keep the engine block from freezing. In addition, drivers often leave the engines running to run auxiliary equipment such as lights, television, microwave, radio, small refrigerator, and similar appliances in the back of the cab.

FACT: Long haul drivers are required by federal law to have 10 hours rest for every 11 hours on the road.

Truck drivers undergo very long, strenuous days while keeping to a schedule in order to safely deliver products to their destination. Long haul drivers are on the job traveling interstates and state highways for days at a time, away from home and often under adverse weather conditions. Unusually cold or hot weather or poor road conditions cause increased levels of fatigue. Proper rest, alertness, and safety are essential for the driver and for other motorists. It is important for drivers to be comfortable to help them achieve the intent of the ten hour federal rest requirement.

FACT: Idling results in the consumption of a significant amount of diesel fuel, and is the single largest avoidable loss to the bottom-line.

Nationally, between 500,000 and 1,000,000 trucks experience long-duration idling while in service, collectively consuming close to one billion gallons of diesel fuel per year. Based on driver surveys, the average truck driver rests for six to eight hours per day and is on the job for more than 300 days each year. A collection of measurable idling data from engine electronic control modules reveals that idling accounts for 30-40 percent of the average engine's total operating time. During the federally required 10-hour rest periods or other times when the truck may be idling, a running diesel engine consumes costly fuel while moving no product, reducing engine life, and resulting in additional maintenance costs. This is the most burdensome cost for a trucking business or owner/operator to incur, since idling and the use of costly fuel is viewed as "nonproductive time" or "downtime." For example, the estimated annual fuel cost for one truck to idle ten hours per day (during the required rest period) for 275 "in-use" days per year with diesel costing \$5.00 per gallon is \$13,750. A fleet of ten trucks in this scenario would use \$137,500 in fuel per year while idling, and fifty trucks would use about \$687,500 in diesel fuel. (See table below for additional examples).

Diesel Fuel Costs for Idling Trucks																
Fuel Costs/gal→	\$3.00				\$4.00				\$5.00				\$6.00			
# of trucks in fleet→	1	10	50	100	1	10	50	100	1	10	50	100	1	10	50	100
Idling Time Hrs/day Days/yr																
2	\$6	\$60	\$300	\$600	\$8	\$80	\$400	\$800	\$10	\$100	\$500	\$1,000	\$12	\$120	\$600	\$1,200
275 days	\$1,650	\$16,500	\$82,500	\$165,000	\$2,200	\$22,000	\$110,000	\$220,000	\$2,750	\$27,500	\$137,500	\$275,000	\$3,300	\$33,000	\$165,000	\$330,000
4	\$12	\$120	\$600	\$1,200	\$16	\$160	\$800	\$1,600	\$20	\$200	\$1,000	\$2,000	\$24	\$240	\$1,200	\$2,400
275 days	\$3,300	\$33,000	\$165,000	\$330,000	\$4,400	\$44,000	\$220,000	\$440,000	\$5,500	\$55,000	\$275,000	\$550,000	\$6,600	\$66,000	\$330,000	\$660,000
6	\$18	\$180	\$900	\$1,800	\$24	\$240	\$1,200	\$2,400	\$30	\$300	\$1,500	\$3,000	\$36	\$360	\$1,800	\$3,600
275 days	\$4,950	\$49,500	\$247,500	\$495,000	\$6,600	\$66,000	\$330,000	\$660,000	\$8,250	\$82,500	\$412,500	\$825,000	\$9,900	\$99,000	\$495,000	\$990,000
8	\$24	\$240	\$1,200	\$2,400	\$32	\$320	\$1,600	\$3,200	\$40	\$400	\$2,000	\$4,000	\$48	\$480	\$2,400	\$4,800
275 days	\$6,600	\$66,000	\$330,000	\$660,000	\$8,800	\$88,000	\$440,000	\$880,000	\$11,000	\$110,000	\$550,000	\$1,100,000	\$13,200	\$132,000	\$660,000	\$1,320,000
10	\$30	\$300	\$1,500	\$3,000	\$40	\$400	\$2,000	\$4,000	\$50	\$500	\$2,500	\$5,000	\$60	\$600	\$3,000	\$6,000
275 days	\$8,250	\$82,500	\$412,500	\$825,000	\$11,000	\$110,000	\$550,000	\$1,100,000	\$13,750	\$137,500	\$687,500	\$1,375,000	\$16,500	\$165,000	\$825,000	\$1,650,000

Assumptions

- Studies have shown that diesel trucks and buses use 0.75—1.2 gallons of fuel per hour of idling, depending on the size and type of engine. An average of one gallon of fuel consumed per each hour of idling was used in the above table. The cost figures represent the estimated cost of diesel fuel while the truck idles for the indicated hours per day (hours/day) and days per year (days/year) and not the overall fuel cost for operating the truck.
- While most over-the-road trucks are in service for 300 days or more per year, the number of annual "in-use days" for the average truck has been conservatively estimated at 275 days.
- The amount of savings for reduced idling can be estimated by using this table. For example, by reducing the idling time for a fleet of 50 trucks at \$4.00 per gallon from 6 hours to 2 hours, the estimated fuel cost savings is \$800 per day (\$1,200 - \$400) and \$220,000 per year (\$330,000 - \$110,000).