



REG **REVIEW**SM

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Good Vibrations? Study Shows Cars' Vibrations Can Lead to Drowsiness

A new study published in the June 6, 2018, online journal *Ergonomics* seems to confirm what you always knew: driving makes you drowsy. The study, "The effects of physical vibration on heart rate variability as a measure of drowsiness," found that the low-level vibrations of cars and trucks can affect mental alertness within 15 minutes and become significant within 30 minutes.

Researchers investigated the effects of low-frequency whole-body vibration on the nervous system using the Karolinska Sleepiness Scale, a measure of drowsiness. Study participants underwent two simulated one-hour-long driving tasks: One involved whole-body vibration through a car seat and the other had no vibration. Within 15-30 minutes of exposure to vibration, autonomic activity increased, which was attributed to the stress of remaining alert and performing when becoming drowsy. This response peaked within 60 minutes.

The study's authors say that the effects of physical vibration on driver alertness need more investigation. In addition, the study's findings could spur innovations in vehicle ergonomics and lead to improvements in road safety, according to the researchers.

Startups, Shutdowns, and Other Infrequent Events

Process unit startups and shutdowns can be dangerous times for any facility, but especially for oil refineries or chemical facilities. A startup is a planned series of steps that take a process from an idle state to normal operation. A shutdown is the reverse sequence.

The U.S. Chemical Safety Board (CSB) recently published a Safety Digest addressing the hazards of startups and shutdowns. According to the CSB, data from the Center for Chemical Process Safety shows that process safety incidents occur five times more often during startups than during normal operations. In addition, a 2010 study of refinery incidents found 50 percent of process safety incidents occur during startups, shutdowns, and other infrequent events.

The CSB points out that startup and shutdown events are likely to involve non-routine procedures, which, in turn, can result in unexpected and unusual situations.

The Safety Digest urges facilities to employ effective communication, provide workers with appropriate training, and develop strong and up-to-date policies and procedures for startups and shutdowns.

In an effort to provide useful information to affected facilities, the Safety Digest also describes three real-life incidents that occurred during a startup or shutdown and provides lessons learned.

Find the document at [csb.gov/assets/1/17/csb_start_shut_02.pdf?16301](https://www.csb.gov/assets/1/17/csb_start_shut_02.pdf?16301).

Heads up! New Standard Aims to Prevent Dropped Objects

Every year in the United States, thousands of workers are injured from being struck by falling objects. Specifically, the Bureau of Labor Statistics (BLS) shows that in 2016, 255 workers died and 47,920 were injured from being struck by objects such as hand tools, instruments, small parts, structural components, and many other items that are used at heights. The BLS reports that overall stuck-by injuries were up 8.7 percent from 2013 to 2014, and are projected to increase to 9.1 percent by the end of 2018.

To address this serious safety problem, the International Safety Equipment Association (ISEA) and the American National Standards Institute (ANSI) developed the first industry standard to reduce the risk of dropped objects in industrial and occupational settings. The standard, ANSI/ISEA 121-2018, *American National Standard for Dropped Object Prevention Solutions*, sets the minimum design, performance, labeling, and testing requirements for tethering practices.

ISEA says it formed the Dropped Object Prevention Group, which included leading safety equipment manufacturers, to standardize solutions available to protect workers from objects dropped from heights. According to Nate Bohmbach, Chair of the group, the standard was developed “from scratch,” and is not a revision of anything. “The standard kicks off a new generation of tethering practices,” said Bohmbach. “A lot of people are tethering their tools and equipment using just duct tape and rope, which is pretty alarming, so this standard guides employers and workers toward safer, more reliable solutions.”

The standard contains four active controls, which are:

- Anchor attachments,
- Tool attachments,
- Tool tethers, and
- Containers (buckets, pouches).

ISEA/ANSI 121-2018 is available online from ISEA.

NIOSH Releases CBRN Respiratory Protection Handbook

The National Institute for Occupational Safety and Health (NIOSH) recently released its Chemical, Biological, Radiological, and Nuclear (CBRN) Respiratory Protection Handbook, which presents information to assist users of CBRN respirators in improving selection, use, and maintenance. NIOSH states that the handbook will be particularly useful to individuals responsible for administering respirator protection programs or developing training programs.

While the handbook is intended for organizations that use CBRN respirators in emergency response applications (e.g., fire service, law enforcement, emergency medical services, and corrections officers), NIOSH notes that others who use CBRN respirators in industrial, public works, construction, utility, and other non-emergency applications will also benefit from the information presented.

1,600 CMVs Out of Service After Surprise Inspection Blitz

An unannounced brake inspection event in April placed nearly 1,600 commercial vehicles out of service for brake violations.

Over 11,500 roadside inspections were conducted across 52 jurisdictions in the U.S. and Canada during the April 25, 2018, event conducted by the Commercial Vehicle Safety Alliance (CVSA). The one-day inspection event, known as Brake Safety Day, resulted in 1,595 trucks and buses taken out of service for brake violations, which is 13.8 percent of the vehicles inspected.

ABS compliance

Many participating enforcement agencies surveyed anti-lock braking system (ABS) compliance, with the following results:

- **Air-braked trucks and tractors:** 8,128 required ABS; 10.2 percent had ABS violations.
- **Trailers:** 5,331 required ABS; 14.3 percent had ABS violations.
- **Hydraulic-braked trucks:** 1,299 required ABS; 3.5 percent had ABS violations.
- **Buses:** 95 required ABS; 2.1 percent had ABS violations.

The CVSA holds brake-focused enforcement events throughout the year to identify and remove commercial motor vehicles with dangerous brake issues. The events are also used to educate drivers, mechanics, and others on the importance of proper brake inspection, maintenance, and operation. The CVSA is holding another brake safety enforcement event this year, known as Brake Safety Week, scheduled for September 16-22 throughout North America.

CDC Launches Nation's First Vision and Eye Health Surveillance System

The Centers for Disease Control and Prevention (CDC) has developed the nation's first Vision and Eye Health Surveillance System (VEHSS). Launched in collaboration with the National Opinion Research Center (NORC), the VEHSS is designed to help health care professionals, researchers, policymakers, and state health departments better understand the scope of vision loss, eye disorders, and eye care services in the United States.

Visitors to the site can search for information about eye conditions and diseases at the state and national levels. The system integrates data from a number of sources across multiple years.

An estimated 61 million adults in the United States are at high risk for serious vision loss. Chronic vision loss can amplify the adverse effects of other chronic illnesses and is associated with an increased risk for all-cause and injury-related mortality.

A national study commissioned by Prevent Blindness found that direct medical expenses, other direct expenses, loss of productivity, and other indirect costs for visual disorders across all age groups were approximately \$139 billion in 2013 dollars.

Is Your Collection Site Using the Correct Custody and Control Form?

The most recent version of the Federal Drug Testing Custody and Control Form (CCF) became the only acceptable medium by which to document DOT drug tests as of July 1, 2018.

The CCF was revised to accommodate changes to how the urine specimen is processed, including:

Addition of four new analytes:

- Oxycodone (OXYC),
- Oxymorphone (OXYM),
- Hydrocodone (HYC), and
- Hydromorphone (HYM); and
- Removal of the analyte methylenedioxyethylamphetamine (MDEA).

These changes to the laboratory procedures were effective January 1, 2018. For the first six months of the year, collectors were given the option of mocking up the previous version of the CCF or using the new format. However, only the newer version is currently acceptable.

What if the collection site used the old form?

Using an expired CCF will not cancel the test. It is a correctable flaw, provided the test was performed in accordance with Part 40, using a Health and Human Services (HHS)-certified lab. If procedures for correcting the error are not followed, or the specimen was not processed in accordance with DOT protocols, the test is to be canceled.

DOT regulations direct the collector, laboratory, Medical Review Officer, or employer to provide a signed statement (a memorandum for the record).

The memorandum for the record must state that the incorrect form:

- Contains all the information needed for a valid DOT drug test, and was used inadvertently or as the only means of conducting a test, in the circumstances beyond your control.

The statement must also list the steps you have taken to prevent future use of expired federal forms for DOT tests. For the motor carrier, for example, this may include:

- Documented discussions with your collection site, or refresher training for employees handling your testing program.

You must supply this information on the same business day on which you are notified of the problem, transmitting it by fax or courier to the MRO. If the MRO does not receive the memorandum, the test must be canceled.

You must maintain the written documentation of a correction with the CCF, and mark the CCF in such a way (e.g., stamp noting correction) as to make it obvious on the face of the CCF that you corrected the flaw.

Hazmat Registration Complete? You're Not Finished

Shippers and carriers are required by the Hazardous Materials Regulations (HMR) [§107.601](#) to register with the [Pipeline and Hazardous Materials Safety Administration \(PHMSA\)](#) if they ship or transport certain materials. While this is a task in itself, registrants aren't necessarily done when registration is complete. Particularly important are the recordkeeping and notification requirements. In fact, not having a copy of this number is currently the third-most cited hazmat violation during a [roadside inspection](#). Each violation could start with a baseline fine of \$1,000.

	Violation Code	Violation Description	# of Inspections	# of Violations	# of Total Violations
1	177.834(a)	Package not secure in vehicle	2,250	2,335	9.06%
2	177.817(e)	Shipping paper accessibility	1,707	1,718	6.67%
3	172.516(c)(6)	No Copy of US Dot Hazardous Materials Registration Number	1,689	1,387	6.55%
4	172.516(c)(6)	Placard damaged, deteriorated or obscured	1,316	1,387	5.38%
5	172.504(a)	Vehicle not placarded as required	1,313	1,357	5.26%
6	177.817(a)	No or improper shipping papers (carrier)	1,294	1,334	5.18%
7	177.823(a)	No placards/markings when required	1,059	1,226	4.76%
8	172.502(a)(1)	Maintenance/accessibility of Emergency Response information	1066	1083	4.20%
9	172.602(c)(1)	Maintenance/accessibility of Emergency Response information	859	861	3.34%
10	172.600(c)	Offer or transport without Emergency Response information	693	696	2.70%

What must be registered?

With a few exceptions, the regulations require that any person who offers the following for transportation or transports them in commerce must register with [PHMSA](#):

- Any highway route-controlled quantity of a Class 7 (radioactive) material;
- More than 55 pounds of a Division 1.1, 1.2, or 1.3 (explosive) material;
- More than 1.06 quarts per package of a material extremely toxic by inhalation;
- A shipment in a bulk packaging having a capacity equal to or greater than 3,500 gallons for liquids or gasses, or more than 468 cubic feet for solids;
- A shipment of non-bulk packaging with a gross weight of 5,000 pounds or more of one class of hazardous material that requires placarding; or
- Any hazardous material that requires placarding.

Recordkeeping requirements

Once registration is complete, registrants must meet the following recordkeeping requirements:

On Board: Motor carriers must ensure each vehicle used to transport materials requiring registration has a copy of the current certificate of registration or has the current year's registration number on another document, provided it is identified as "U.S. DOT Hazmat Reg. No."

Principal Place of Business: Copies of the registration statement and the certificate of registration must be kept at the principal place of business. These documents must be kept for three years and must be made available for inspection, if requested by authorized representatives.

Notification requirements

If a shipper or carrier that is required to register with PHMSA changes its name or principle place of business after registering, it must notify [PHMSA](#). Notification must be made within 30 days of the change and can be accomplished by submitting an amended registration statement.

Congressman Concerned About OSHA's Ability to Carry Out its Mission

In a recent letter to Department of Labor Secretary Alexander Acosta, Rep. Keith Ellison (D-MN) expressed concerns over a marked drop in OSHA enforcement in 2017. Rep. Ellison asked for more data on how the Agency was dedicating its resources to enforcing workplace safety standards.

According to Rep. Ellison, despite a 7-percent increase in workplace fatalities in 2016, the number of Enforcement Units (EU) has decreased, along with a decrease in the number of federal OSHA inspectors.

The letter focused on EUs as a measure of OSHA's inspection activity, saying that in FY 2016, OSHA reported 42,900 EUs. Contrast that with a total of 41,829 EUs in 2017, a reduction of 1,071 EUs. "This decline has only continued to accelerate," Ellison wrote. "Within the first five months of FY 2018, enforcement action is down by a total of 1,163 EUs."

OSHA began using EUs as a way to encourage its inspectors to focus on more complex workplace inspections such as heat stress, ergonomics, workplace violence, and process safety management. More complex cases are assigned more EUs, meaning the correlation between EUs and number of inspections do not necessarily equate to less enforcement, but rather to less focus on the EUs system and less focus on the more complex cases.

Rep. Ellison asked for a response by July 24 to a series of questions, including, "How many inspectors have the Department on-boarded since January 1, 2018?" and "Currently, how are you targeting the most dangerous workplaces?"

He also questioned OSHA's ability to carry out its mission. Rep. Ellison pointed out that the number of federal OSHA inspectors shrunk to 764 in January 2018, compared to 814 in January 2017. "This is only enough inspectors to inspect workplaces once every 158 years," he said.

Further, Rep. Ellison wrote, "Enforcement penalties are not being enforced to anywhere near their intended extent." He explained that recent increases in the maximum penalties allowed by law let the Agency cite approximately 80 percent higher maximum penalties for occupational health and safety violations. However, Rep. Ellison claims these increases appear to be "toothless" as penalties are often lower. In FY 2017, according to Rep. Ellison, the average penalty for a serious violation was \$3,553, and worker fatalities had a median penalty of \$7,500.