



THE SSE ELUCIDATOR

“Elucidate: to give clarity through explanation and analysis.”

NEW EXECUTIVE ORDER



On January 24th, 2007, President George W. Bush signed the Executive Order (E.O.) 13423, “Strengthening Federal Environmental, Energy, and Transportation Management.” The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, renewable energy, sustainable buildings, electronics stewardship, fleets, and water conservation. The Federal government has made significant progress in improving environmental and energy performance through a series of executive orders, Memoranda of Understanding, and other guidance. E.O. 13423 intends to consolidate, strengthen, and build upon five executive orders and two Memorandums of Understanding by establishing new and updated goals, practices, and reporting requirements for environmental, energy, and transportation performance and accountability. In addition the order requires more widespread use of Environmental Management Systems (EMS) as the framework in which to manage and continually improve these sustainable practices.

As stated by the Office of the Federal Environmental Executive, E.O. 13423 requires Federal agencies to lead by example in advancing the nation’s energy security and environmental performance. The E.O. establishes new goals for each sustainable practice that are at least as stringent, and in most cases go beyond, prior E.O. goals and statutory require-

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ments. These goals will result in better management of our environmental and energy footprint through reduced waste and increased energy efficiency, reduced greenhouse gas emissions, and expanded procurement of environmentally sound products and services, such as the growing area of biobased products. E.O. 13423 intends to achieve the following goals:

Vehicles – Increase purchase of alternative fuel, hybrid, and plug-in hybrid vehicles when commercially available.

Petroleum Conservation – Reduce petroleum consumption in fleet vehicles by 2% annually through 2015.

Alternative Fuel Use – Increase alternative fuel consumption at least 10% annually.

Energy Efficiency – Reduce energy intensity 30% by 2015.

Greenhouse Gases – Reduce greenhouse gas emissions through reduction of energy intensity by 3% annually or 30% by 2015.

Renewable Power – At least 50% of current renew-

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able energy purchases must come from new renewable sources (in service after January 1, 1999).

Building Performance – Construct or renovate buildings in accordance with sustainability strategies, including resource conservation, reduction, and use; siting; and indoor environmental quality.

Water Conservation – Reduce water consumption intensity by 2% annually through 2015.

Procurement – Expand purchases of environmentally-sound goods and services, including biobased products.

Pollution Prevention – Reduce use of chemicals and toxic materials and purchase lower risk chemicals and toxic materials from top priority list.

Electronics Management – Annually, 95% of electronic products purchased must meet Electronic Product Environmental Assessment Tool standards where applicable; enable Energy Star® features on 100% of computers and monitors; and reuse, donate, sell, or recycle 100% of electronic products using environmentally sound management practices.

Environmental Management Systems – By 2010, increase to at least 2,500 the number of Federal operations that implement environmental management systems, up from about 1,000 today.

The Instructions for Implementing E.O. 13423 were released on March 29, 2007. This document defines agency requirements for implementing E.O. 13423 and broad strategies for achieving these requirements. These instructions, to be considered as mandatory requirements by the agencies, explain in more detail the specific tasks and milestones expected towards successfully meeting the goals of the E.O. In the future, additional instructions and guidance will be issued as needed to further facilitate meeting the goals. It is also expected that over time this document will be updated to reflect new practices and technologies appropriate to meet the

E.O. goals. In implementing the policy, goals, and objectives of E.O. 13423, agencies shall apply the following overarching directives:

EMS – Management approach for environmental aspects of internal agency operations and activities; establishes agency objectives and targets to ensure implementation of the E.O.; and used for collection, analysis, and reporting of information to measure performance in the implementation of the E.O.

Environmental Compliance – Adherence to all applicable environmental protection and energy conservation laws and regulations by all Federal agencies and Federal employees at all levels.

Life-Cycle Costs – Considered by each agency in planning and making determinations and investments in all capital assets, services, and procurements, which will lower the government's costs while reducing environmental impacts of operations.

Performance Evaluations – To ensure accountability, each agency shall include successful implementation of the E.O. in performance standards and performance evaluations of all relevant agency staff.

Award Programs – Employed by each agency to reward exceptional individual and team performance in implementing the goals of the E.O.

Use of Cross-function Teams – Designated by each agency to expedite implementation of the E.O. and collaboration with other agencies. Should consist of procurement, legal, budget, facility and energy management, environmental management, and technical support staff.

Compliance with OMB Good Practices Bulletin – Required for all guidance documents issued under the E.O.

A copy of E.O. 13423 can be found at <http://www.archives.gov/federal-register/executive-orders/2007.html>, and a copy of the instructions for implementing E.O. 13423 can be found at <http://www.fedcenter.gov/Documents/index.cfm?id=6825>.

HAZARDOUS WASTE RESOURCE CENTER WEBSITE

The Hazardous Waste Resource Center website, last seen about a year ago, is now up and running in an easy to use format at <https://hwrc.army.mil>. The site is accessible with your AKO account.

This site is designed for:

- ◆ Users that have already received Resource Conservation and Recovery Act (RCRA) training elsewhere or who have some RCRA facility experience. The HWRC does not “teach” RCRA.
- ◆ Users that have little or no experience with the Army HW program or who are trying to stay abreast of changing program requirements.
- ◆ Users who are responsible for compliance at CONUS facilities/installations or who have IMA region, National Guard Bureau, or MACOM HW program oversight responsibilities.



Sections on the website include information on regulations, program management, and special topics, information for Installation users, as well as, resources and training. A virtual tour of the site is available to help the user easily navigate through the extensive

amount of information. There are also mini guides, for example, how to develop an emergency response plan. There is also information for Commanders, HW managers, HW handlers, and satellite accumulation point workers.

Hazardous waste regulation information covered on the website includes:

- ◆ RCRA
- ◆ Hazardous Waste Identification

- ◆ Generators
- ◆ Transporters
- ◆ Related Federal Laws
- ◆ State Laws and Regulations
- ◆ Army Regulations
- ◆ Military Munitions Rule
- ◆ Overseas Environmental Baseline Guidance Document
- ◆ Universal Wastes

Program management areas of the website include:

- ◆ Understanding the Installation Hazardous Waste Program
- ◆ Organizations and Personnel Involved in Hazardous Waste Management at an Installation
- ◆ Program Elements
- ◆ Hazardous Waste Management Planning
- ◆ Storage Equipment and Supplies
- ◆ Inspections
- ◆ Transportation of Waste
- ◆ Disposal Options
- ◆ Recordkeeping Requirements
- ◆ Reporting Requirements
- ◆ Program Management
- ◆ Funding

Training information available on the website include:

- ◆ Training by Employee Type
- ◆ Legally Mandated Training
- ◆ Types of Training
- ◆ Planning for Training
- ◆ Training Documentation
- ◆ Soldier Doctrinal and Training Products

NITROGEN TIRE INFLATION

Are the benefits of nitrogen tire inflation worth the extra cost?

Lately there has been more and more interest in using other gases, such as nitrogen, instead of air to fill car and truck tires. While nitrogen has been used for years in the tires of race cars, large commercial trucks, aircraft and even the space shuttle, is there a real benefit in using nitrogen in cars?

The earth's atmosphere is composed primarily of Nitrogen (78%), the remaining balance is a mixture of Oxygen (21%) and a small percentage of Ozone, Argon and Carbon gases. Oxygen, especially at high temperatures, is a very reactive element. Oxidation is the interaction between oxygen molecules and all the different substances they may contact, from metal to living tissue.

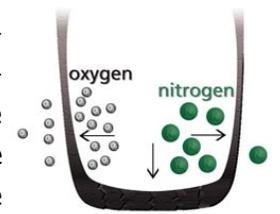
Oxygen corrodes aluminum and steel wheels. Why should you stop putting air in your tires? Compressed air you find at tire shops, gas stations and the compressor you use at home have high concentrations of water vapor. A high concentration of water vapor acts as a catalyst, and therefore accelerates rust and corrosion. Rust and dust from wheels can clog valve stems, causing them to leak. Oxygen reacts with rubber also, in a sense, "corroding" it too. Rough surfaces on wheel flanges and tire beads may not seal properly, causing additional leaks.

Not only does oxygen result in corrosion, oxygen molecules also migrate through rubber. Truck tires can lose 2 psi per month as a result of air passing through their sidewalls. That's why regular inflation pressure checks are a must. Even if there's nothing wrong, you can still be losing pressure. Also, when oxygen passes through rubber, it can come into contact with steel cords, causing them to rust too.



Oxygen also ages the inner liner, that thin layer of rubber inside the tire whose function is keeping air away from the carcass, primary structure of a tire body. As the inner liner ages, more and more air molecules can pass through it, causing more pressure losses. Air inflated tires with high water vapor tend to run hotter and fluctuate in pressure more. Between aging rubber and corroding steel cords, oxygen reduces retreadability.

While both nitrogen and oxygen can permeate rubber, nitrogen does it much more slowly. Oxygen molecules are small enough to escape through the tire wall, while nitrogen molecules are larger and escape 3 to 4 times slower. By reducing oxygen and water vapor in your tires from 22% to less than 7%, your tires will maintain pressure three to four times longer. It might take six months to lose 2 psi with nitrogen, compared to just a month with air. Also, nitrogen is far less reactive and doesn't cause rust and corrosion on steel or aluminum, and it doesn't degrade rubber. Wheel surfaces stay smooth and clean, rubber remains supple and resilient. Inflation losses are minimized – and retreadability is enhanced.



Advantages of Nitrogen Inflation

1. Less inflation pressure loss
2. Less inflation fluctuation with heat
3. Reduced wheel corrosion
4. Longer tread life
5. Improved retreadability

In 2006, fewer than 10 percent of nationwide tire dealers offer nitrogen, but the number is growing. Tires are inflated the same as they would be with

NITROGEN TIRE INFLATION

(continued)

air. All that is required to make nitrogen is an air compressor and a membrane nitrogen generator. The systems are quiet economical to own and operate and only take up as much space as an office supply cabinet. However, most dealers charge \$2 to \$5 per tire for the nitrogen fill-up, with free lifetime refills. Chances are, as it becomes more popular, you'll find nitrogen inflation equipment at truck stops.

The cost effectiveness of nitrogen inflation will depend on the individual driver. Tires will maintain their strength longer. Tires inflated with nitrogen experience an increase of 26% in mileage achieved before failing. There is also an estimated 3.3% fuel savings associated with vehicles running nitrogen inflated tires. Under-inflated tires can lower gas mileage by 0.4 percent for every 1 psi drop in pressure of all four tires. However, fuel benefits are due solely to proper tire inflation and can be achieved by maintaining the right inflation pressure all the time.

With nitrogen inflation, you won't need to "top off" your tires nearly as often - or as much. However, one of the expressed concerns about using nitrogen is that using regular air to top off a tire could negate any benefits of nitrogen use. If you do need to add pressure, it is possible to add compressed air to a nitrogen inflated tire, as long as the tire maintains 93% to 95% nitrogen. However, based upon published long term oxidation tire weakening theo-

ries accepted by the scientific community, tires will require at least a 95% level of nitrogen purity if the long term benefit of nitrogen over compressed air is to be fully realized.

With or without nitrogen, proper inflation is the key to improving gas mileage. Motorists can improve gas mileage by 3.3% simply by keeping their tires properly inflated, according to the U.S. Department of Energy. However, 85% of motorists do not properly check their tire inflation pressure. If 85 percent of the 220 million vehicles on the road today improved their gas mileage by 3.3 percent, the U.S. would save 3.7 billion gallons of gas per year.

There are environmental benefits to reducing gaso-

Fuel Savings Example Calculation

Miles you driver per year	=	13500
Average U.S. gas price	=	\$2.80
MPG of vehicle	=	25
Total savings per year	=	\$60.48

line consumption. Every gallon of gasoline a vehicle burns puts 20 pounds of carbon dioxide into the atmosphere. A reduction of 3.7 billion gallons of gas per year would result in a reduction of 74 billion pounds of carbon dioxide released into the atmosphere.

There's nothing you can do that is better for your tires than maintaining the right inflation pressure - all the time. Nitrogen could help you do that.

Additional information, savings calculator, and a nitrogen locator can be found at <http://www.getnitrogen.org/>.

Disadvantages of Nitrogen Inflation

1. Limited accessibility
2. Additional cost for nitrogen inflation
3. 95%+ level of nitrogen purity required for benefits to be realized

SWIMMING POOL SAFETY

Owning a swimming pool can be a terrific way to enjoy the summer with your family and friends. However, according to the U.S. Consumer Product Safety Commission (CPSC), each year about 280 children under 5 drown in swimming pools. In some of the nation's sunbelt, drowning has been the leading cause of accidental death in the home of children under 5 years old. CPSC also estimates that 2,100 children were treated in hospital emergency rooms for pool submersion injuries in 2005 – mostly in residential pools. In addition, the suction from drains in swimming pools and spas, under certain conditions, can entrap swimmers underwater. Misuse of pool chemicals and high bacteria levels in the water can also pose serious risks. Families who own pools can take their own precautions to reduce the chances of an accident. An important first preventative step to take is to ensure your pool has been properly installed using correct techniques and materials and all accessories meet local and national building and safety requirements including slides, diving boards, pool alarms, fences and other enclosures.

General Pool Safety Tips

- ◆ If a child is missing, always look first in the pool. Seconds count !
- ◆ Knowing how to swim doesn't make a child drown-proof. Never use flotation devices as a substitute for supervision.
- ◆ Instruct babysitters about potential pool hazards to young children and about the use of protective devices, such as door alarms and latches. Emphasize the need for constant supervision.
- ◆ No one should ever swim in a pool or hot tub while intoxicated.
- ◆ Floating toys are not lifejackets or approved flotation devices and should not be used as such.
- ◆ Keep rescue equipment and a phone next to the pool.
- ◆ Learn cardiopulmonary resuscitation (CPR)
- ◆ A person diving should know the proper way to dive and know the water's depth before ever diving into a pool.
- ◆ Any type of pool cover should be entirely removed before anyone goes swimming in a pool as being trapped under a partially removed cover is dangerous.

Use Layers of Protection

Layers of protection are essential. Place barriers completely around the pool, closely supervise young children, and be prepared in case of emergency. Install physical barriers around the pool to limit access.



- ◆ Fences and walls should be at least 4-feet high and installed completely around the pool.
- ◆ Gates should be self-closing and self-latching. The latch should be out of reach of small children.
- ◆ If your house forms one side of the barrier for the pool, doors leading from the house to the pool should be protected with alarms that sound when the doors are unexpectedly opened. Or, use a power safety cover, a motor-powered barrier placed over the water area, to prevent access by young children.
- ◆ For above-ground pools, steps and ladders to the pool should be secured or removed when the pool is not in use.
- ◆ Water should be pumped off existing covers, as they can pose a drowning risk as well.

Pool and Spa Entrapment Dangers

- ◆ Never use a pool or spa with a missing or broken drain cover. Be sure a new drain cover is in

SWIMMING POOL SAFETY (continued)

use, usually domed-shaped instead of the old flat drain covers.



- ◆ Consider installing a Safety Vacuum Release System (SVRS), a device that will automatically shut off a pump if a blockage is detected.
- ◆ Have a professional regularly inspect your pool or spa for entrapment or entanglement hazards.
- ◆ Plainly mark the location of the electrical cut-off switch for the pool or spa pump.
- ◆ If someone is entrapped against a drain, cut off the pump immediately. Instead of trying to pull the person away from the powerful suction, pry a hand between the drain and the person's body to break the seal.

Pool Chemical Dangers

- ◆ Chemicals should be stored in a place children cannot access and should be stored in appropriate places (i.e. not next to one another, in certain temperatures etc.) as recommended by your local pool contractor and chemical manufacturer.
- ◆ Chemicals should never be mixed.
- ◆ Ensure when you are dispensing chemicals that you read and follow all appropriate instructions.
- ◆ To ensure the pool is clean and bacteria-free, check all water and chemical levels often and rectify as needed.

For more information on swimming pool safety, you can visit the U.S. Consumer Product Safety Commission (CPSC) website at www.cpsc.gov, or call the CPSC Hotline at (800) 638-2772.

UPCOMING COURSES AND SEMINARS

Title: Joint Services Environmental Management (JSEM) Conference

Location: Columbus, OH **Date:** 5/21/2007 – 5/24/2007

Description: A comprehensive summit on the evolving world of environment, energy, and geospatial information within DoD. The object of the conference is to highlight the many new and innovative ways the DoD, other Federal agencies, states, the defense industry, and our partners are meeting our mission needs while protecting the environment. This year will feature energy-related topics, fossil fuel alternatives, and geospatial information management.

Web: For more information visit <http://www.jsemconference.com/2007/index.htm>.

Title: 2007 Sustaining Military Readiness Conference

Location: Orlando, FL **Date:** 7/29/2007 – 8/3/2007

Description: The conference brings together DoD professionals from the operational, environmental conservation, and planning communities along with partners from other government and non-governmental agencies. Topics to be discussed include: training opportunities, lessons learned, conservation, compatible land use planning, and encroachment mitigation.

Web: For further information, visit the conference website at:
<http://www.sustainingmilitaryreadiness2007.com>.

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Reminder

*For all accidents, no matter how minor,
specific forms documenting the incident must be submitted to your Safety Office.*

Military: DA Form 285-AB-4

Civilian: DOL Claims Forms CA-1 or CA-2

All employees requiring medical attention must visit your local Occupation Health Clinic as soon as possible post mishap.