Wheels & Wings

AFDC Features Wealth of Compliance-Related Data

The alternative fuel use requirements outlined in the Energy Independence and Security Act (EISA) and Executive Order (E.O.) 13423 are presenting federal fleets with new compliance challenges. In these times of change, easily obtaining pertinent, factual, unbiased information on alternative fuels and advanced vehicles is critical in making decisions on how to meet petroleum-reduction goals.

The Alternative Fuels and Advanced Vehicles Data Center (AFDC) can help. Sponsored by the U.S. Department of Energy's Clean Cities initiative and administered by the National Renewable Energy Laboratory, the AFDC (www.eere.energy.gov/afdc/about.html) is a comprehensive clearinghouse of data, publications, tools, and information related to advanced

transportation technologies. It hosts 3,000-plus documents, interactive tools that help fleets and consumers make transportation decisions, and a wealth of information to educate the public on alternative fuels and advanced vehicles.

Make the AFDC your first stop when researching alternative fuels and advanced vehicles to meet EPAct, EISA, and E.O. 13423 requirements.

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For example:

- Do you need to find out if E85 or another alternative fuel is available in your area? Visit the Alternative Fueling Station Locator (www.eere.energy.gov/afdc/fuels/stations.html) and enter the address of your vehicle's garaging address. The Station Locator will pull up a list of stations within a chosen radius.

- Are you thinking about installing onsite alternative refueling infrastructure? Visit the AFDC's Alternative Fueling Stations section (http://www.eere.energy.gov/afdc/fuels/stations.html) and scroll to the bottom of the page. There you'll find links to information on the development of infrastructure for ethanol, biodiesel, natural gas, and propane. In addition, the AFDC's E85 Fleet Toolkit (www.eere.energy.gov/afdc/e85toolkit) walks fleets through the process of installing E85 refueling stations.

- Are you looking for general information on alternative and advanced fuels? The AFDC's Fuels section(http://www.eere.energy.gov/afdc/fuels/index.html) features detailed descriptions of all EPAct-approved alternative fuels, including E85, biodiesel, natural gas, and propane. It also covers advanced fuels, such as biogas, P-Series, and Fischer-Tropsch diesel.

As you can see, the AFDC is a valuable resource in researching information on compliance options. However, if you need additional assistance, contact your local Clean Cities coordinator. Coordinators routinely work with fleets to help them meet petroleum-consumption goals. To find the coordinator in your area, visit the Contacts section of the Clean Cities Web site (www.eere.energy.gov/cleancities/progs/coordinators.php).

"Where does it say...?"

Most often when I hear a question regarding a specific fleet management issue, the person begins with "Where does it say…?", and then finishes the question citing their particular circumstance. These folks are naturally looking for an answer in black and white so they have a documented reference to support their position or decision.

Sometimes the answer may be directly spelled out in a text, but more often, the answer lies within an interpretation of data gathered from many sources.

Guidance for Federal motor vehicle management does not come from one definitive reference, but is derived from many places. Laws, regulations, Executive Orders, advisory bulletins, agency-specific policy, Comptroller General Decisions, OMB Circulars, Office of General Counsel guidance, are some of the many resources that can inform the Federal fleet management process.

Resolving fleet management issues can best be approached by consulting these sources and applying sound decision-making to develop a solution. Links to these sources may be found in the online "Guide to Federal Fleet Management" found at gsa.gov/vehiclepolicy.

Contact: Jim Vogelsinger @ 202-501-1764 or james.vogelsinger @gsa.gov

Football is a game...
Your life is not.
Buckle up.

– Ray Lewis

BUCKLE UP AMERICA
There's Just Too Much to Lose

NATIONAL FOOTBALL LEAGUE PLAYERS ASSOCIATION

Driving Defensively

Provided by the National Safety Council

More than 41,000 people lose their lives in motor vehicle crashes each year and over two million more suffer disabling injuries, according to the National Safety Council. The triple threat of high speeds, impaired or careless driving and not using occupant restraints threatens every driver—regardless of how careful or how skilled.

Driving defensively means not only taking responsibility for yourself and your actions but also keeping an eye on "the other guy." The National Safety Council suggests the following guidelines to help reduce your risks on the road.

- Don' t start the engine without securing each passenger in the car, including children and pets. Safety belts save thousands of lives each year! Lock all doors.

- Remember that driving too fast or too slow can increase the likelihood of collisions.

- Don' t kid yourself. If you plan to drink, designate a driver who won' t drink. Alcohol is a factor in almost half of all fatal motor vehicle crashes.

- Be alert! If you notice that a car is straddling the center line, weaving, making wide turns, stopping abruptly or responding slowly to traffic signals, the driver may be impaired.

- Avoid an impaired driver by turning right at the nearest corner or exiting at the nearest exit. If it appears that an oncoming car is crossing into your lane, pull over to the roadside, sound the horn and flash your lights.

- Notify the police immediately after seeing a motorist who is driving suspiciously.

- Follow the rules of the road. Don' t contest the "right of way" or try to race another car during a merge. Be respectful of other motorists.

- Don' t follow too closely. Always use a "three-second following distance" or a "three-second plus following distance."

- While driving, be cautious, aware and responsible.

Aggressive Drivers, "Who Are They?"

Provided by the National Highway Traffic Safety Administration

Here's what we know of them, so far:

These high risk drivers climb into the anonymity of an automobile and take out their frustrations on anybody at any time.

- For them, frustration levels are high, and level of concern for fellow motorists is low.

- They run stop signs and red lights, speed, tailgate, weave in and out of traffic, pass on the right, make improper and unsafe lane changes, make hand and facial gestures, scream, honk, and flash their lights.

- They drive at speeds far in excess of the norm which causes them to: follow too closely, change lanes frequently and abruptly without notice (signals), pass on the shoulder or unpaved portions of the roadway, and leer at and/or threaten - verbally or through gestures - motorists who are thoughtless enough to be in front of them.

When Confronted by Aggressive Drivers:

- First and foremost make every attempt to get out of their way.

- Put your pride in the back seat. Do not challenge them by speeding up or attempting to hold-your-own in your travel lane.

- Wear your seat belt. It will hold you in your seat and behind the wheel in case you need to make an abrupt driving maneuver and it will protect you in a crash.

- Avoid eye contact.

- Ignore gestures and refuse to return them.

- Report aggressive drivers to the appropriate authorities by providing a vehicle description, license number, location, and if possible, direction of travel.

- If you have a "Cell" phone, and can do it safely, call the police — many have special numbers (e.g. 9-1-1 or #77).

- If an aggressive driver is involved in a crash farther down the road, stop a safe distance from the crash scene, wait for the police to arrive and report the driving behavior that you witnessed.

Remember How to Deal with Aggressive Drivers.

Avoid the challenges or confrontations of an aggressive driver and support law enforcement's efforts to rid the streets and highways of this menace.

Older Adult Drivers: Fact Sheet

Provided by the Department of Health and Human Services, Centers for Disease Control and Prevention

Overview

- In the United States, 3,355 occupants ages 65 and older died in motor vehicle crashes during 2004 (CDC 2006).

- In the United States, more than 177,000 adults ages 65 and older suffered nonfatal injuries as occupants in motor vehicle crashes during 2005 (CDC 2006).

- In 2004, there were more than 28 million licensed drivers age 65 years and older a 17-percent increase from the number in 1994. During this same time period, the total number of licensed drivers increased by only 13 percent (NHTSA 2006).

National Goals

- By 2010, the Department of Health and Human Services aims to reduce motor vehicle-related deaths among people of all ages to no more than 8 per 100,000 people. For adults older than age 70, the motor vehicle death rate has remained stable at about 23 per 100,000 for over a decade (Department of Health and Human Services 2000).

Occurrence

- Drivers ages 80 and older have higher crash death rates per mile driven than all but teen drivers (IIHS 2006).

- During 2005, most traffic fatalities involving older drivers occurred during the daytime (79%) and on weekdays (73%); 73% of the crashes involved another vehicle (NHTSA 2006).

Consequences

- Older drivers who are injured in motor vehicle crashes are more likely than younger drivers to die from their injuries (IIHS 2006).

Groups at Risk

- Across all age groups, rates for motor vehicle-related fatalities are higher for men than for women (IIHS 2006).

Risk Factors

- Age-related decreases in vision, cognitive functions, and physical impairments may affect some older adults driving ability.

Protective Factors

- Older adults wear safety belts more often than any other age groups except infants and preschool children (CDC 1997).

- Among older occupants involved in fatal crashes, 75% were using restraints at the time of the crash, compared to 62% for other adult occupants (18 to 64 years old) (NHTSA 2006).

- Older adult drivers tend to drive when conditions are safest. They limit their driving during bad weather and at night, and they drive fewer miles than younger drivers.

- Older adult drivers are less likely to drink and drive than other adult drivers.

Study Shows Biodiesel Industry Steps Up to Fuel Quality Challenge

BQ-9000 quality assurance program shines

The aggressive fuel quality outreach program put into place by the National Biodiesel Board (NBB) has demonstrated positive results. A new study by the National Renewable Energy Laboratory (NREL) shows the biodiesel industry has achieved a high degree of success in meeting national fuel quality standards.

According to the results, which NREL Senior Chemist Teresa Alleman presented today at the National Biodiesel Conference & Expo in Orlando, Fla., the in-spec samples represent 90 percent of the biodiesel produced in the U.S. last year. This demonstrates a significant improvement in fuel quality since a previous NREL survey in 2006.

This conclusion is based on a relatively large sample size. The sample covered 70 percent of actual U.S. production in 2007 and is believed by NREL to be representative of biodiesel production nationwide. NREL, a Department of Energy laboratory based in Golden, Colo., collected the samples from biodiesel producers between April and October 2007. The plants made biodiesel from different vegetable oils and fats, and ranged in actual production from 3,000 to 30 million gallons per year. NREL then tested each sample for the most critical parameters required by ASTM D 6751, the national standard for biodiesel.

"These data show that the biodiesel industry has achieved dramatic improvements in fuel quality since 2006," said Steve Howell, NBB Technical Director. "We expect that this trend will continue so that virtually all biodiesel sold in the U.S. meets these requirements in the very near future."

The study showed that plants certified under BQ-9000, the industry's voluntary quality control program, faired the best. BQ-9000 producers consistently hit the mark, no matter how large or small the plant.

According to NREL, the one sample that was out of specification from a BQ-9000 producer was most likely a sampling or contamination error, not an actual manufacturing issue. There are 27 companies certified under BQ-9000. Industry-wide, those producers represent about 75 percent of biodiesel produced.

"In the summer of 2006, our Board of Directors put into place a strong fuel quality policy with the goal of increasing the level of in-specification biodiesel in the U.S. to 100 percent," said Joe Jobe, CEO of the National Biodiesel Board (NBB). "The NBB's outreach efforts with enforcement agencies and our investment in the BQ-9000 program have yielded terrific results, and we'll continue to push for 100 percent."

In addition to putting more resources into BQ-9000, the NBB has worked with the Internal Revenue Service and Environmental Protection Agency on enforcing fuel quality. In order to receive the federal tax incentives for biodiesel, the biodiesel must meet D 6751.

NBB is also working with all state Divisions of Weights and Measures, encouraging them to adopt ASTM D 6751 into regulatory laws, and enforce it. Currently, 36 states have adopted the standard. Sixteen states now proactively test biodiesel or biodiesel blends, and 33 states will react to complaints about out-of-spec biodiesel. An online Fuel Quality Enforcement Guide (www.biodiesel.org/resources/fuelqualityguide) provides guidance on actions for anyone who has concerns that a company might not be producing in-spec fuel.

"ASTM standards are in place to protect consumers, and demonstrating that the vast majority of our producers are meeting that standard will continue to build consumer confidence," said Howell. "This will also reassure engine makers that their growing support for biodiesel is wellplaced."

The study confirmed that feedstock choice was irrelevant to whether the fuel met the standard. Biodiesel made from recycled cooking oil, for example, was just as likely to meet spec as fuel made from more common feedstocks like soybean oil. Biodiesel is a cleaner burning alternative fuel that can be used in any diesel engine, usually in a

blend of 20 percent or below. The use of biodiesel in a conventional diesel engine results in a substantial reduction of unburned hydrocarbons, carbon monoxide, and particulate matter.

Readers can learn more about biodiesel by visiting www.biodiesel.org. For a list of BQ-9000 suppliers, visit www.bq-9000.org.

For more information contact Jenna Higgins/NBB at 800-841-5849

LNG: Receiving Renewed Attention

It's no wonder Liquefied Natural Gas (LNG) is playing an increasingly important role in the U.S. transportation fuels market. With its relatively low cost per diesel gallon equivalent (DGE) and with it being the cleanest burning fuel available, LNG offers a good solution to many fleets facing the ever-rising price of petroleum based fuels and the greater awareness and understanding of the environmental impact of traditional fossil fuels.

According to the International Association of Natural Gas Vehicles, worldwide there are more than seven million natural gas vehicles, including those powered by compressed natural gas (CNG) and LNG. The number of LNG fueling stations is also increasing. This growth in LNG fueling infrastructure is, of course, key to the increased purchase and use of LNG powered vehicles.

"Significant recent developments have redefined the natural gas playing field," said Leo Thomason, Executive Director of the Natural Gas Vehicle Institute. "From port regulations that focus the spotlight on LNG, to fuel prices that are at least $1.50 per gallon more than compressed or liquid natural gas, the marketplace has aligned to draw renewed attention to this clean-burning fuel."

So what exactly is LNG?

LNG is composed mainly of methane. It is natural gas that has been cooled to the point that it condenses into a liquid. This condensation occurs at a temperature of approximately minus 259 degrees Fahrenheit. In this form, it is a colorless, odorless, non-toxic fuel. In the transportation industry, LNG is especially popular among heavy-duty fleet operators because it allows for increased driving range compared to CNG.

Why use LNG for your fleet?

LNG has many characteristics that distinguish it from other fuels. First, liquefaction reduces the volume of natural gas by 600 times which makes it more economical to transport and easier to store. Second, natural gas is a widely available and can be a renewable resource. Natural gas reserves are estimated at 6,813 trillion cubic feet, according to the Energy Information Administration. In the U.S., there are more than 113 active LNG facilities, found at marine terminals, storage facilities, and LNG vehicular fuel operations. Third, LNG vehicles produce fewer emissions compared to traditional and other alternative fuels. Fourth, because LNG transforms from its liquid state into a gaseous state readily before it is consumed in the engine, it is far more efficient, and because it does not contaminate the engine, reduces wear and tear, adding to engine life. This, of course, is an additional economic benefit. Finally, LNG has an excellent safety record. There have been no reported burn accidents, loss of life, or other serious injuries related to the use of LNG as a vehicular fuel.

It is still, of course, very important to remember that drivers, mechanics, and fuel handlers know and use recommended safety practices. This is especially true given current growth trends in the LNG fuel industry. To learn more about LNG, its characteristics and properties, as well as the safety procedures for LNG powered vehicles, and to hear about NGVi's one-day LNG safety course, please review a recently broadcast webinar. It's called "*A Primer: LNG as a Transportation Fuel*" and is available by going to www.afvi.org.

If You Have to Choose Between Buying Tires, Helping the Environment, Increasing Productivity and Saving Money, You're Not On Retreads

The Tire Retread & Repair Information Bureau

When it comes to saving money and helping the environment it is a good idea to remember that the new black is green. By using retreads you can do the planet a favor while actually improving your company's bottom line. A win-win.

The retreads being produced today by top quality retreaders can actually outperform many new tires and they cost less, use less oil and energy to produce and reduce the number of tires sent to landfills.

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The Tire Retread & Repair Information Bureau can provide a complete packet of materials about the economic and environmental benefits of retreads, Our materials are non commercial and include a Retread Tire Buyers Guide listing the names and contact information for top quality retreaders worldwide. To order your packet, call our toll free number 888-473-8732 from anywhere in North America, or send an email to: info@retread.org.

We are also a great resource for all types of tire related information and are always happy to hear from you and to answer your tire related questions. Again our toll free number is 888-473-8732. And don't forget to visit and bookmark our web site, www.retread.org.

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What are you waiting for?

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TRIB is a non-profit, industry supported association dedicated to the recycling of tires through tire retreading and tire repairing.

Unmanned Aircraft Systems: In Need of a Flight Plan

By Mike Miles, GSA, Aircraft Management Policy

The FAA established the Unmanned Aircraft Systems (UAS) Program Office (AIR-160) to manage integration of UAS operations into the national airspace system (NAS). The focus of the FAA has been to meet the needs of the military, Federal agencies, state and local governments, as well as private companies. As more and more operators of UAS operators have emerged, the FAA has realized the necessity to address the regulatory needs of all groups that will fly UAS in the NAS.

The documents that are currently used to "regulate" UAS operations are the FAA Order 7610.4, Special Military Operations; the AFS-400 UAS Policy 05-01; and the Federal Register Notice, docket FAA-2006-25714, Unmanned Aircraft Operations in the National Airspace System. One last document, the FAA Advisory Circular 91-57, Model Aircraft Operating Standards, has received more attention in the last year than it did when it was first released in 1981.

The *FAA Order 7610.4K, Special Military Operations* describes how the FAA handles military requests to fly UAS in civil airspace. The FAA has also applied the provisions of this order to non-military (government and commercial) UAS operations. The Order basically divides UAS into two groups: those that weigh less than 55 pounds and operate at or below 1,000' above ground level (or AGL) and all others. Those UAS that weigh more than 55 pounds must meet equipment requirements for the class of airspace of intended operations, to include a detect-and-avoid system. In other words, the UAS must have some method of detecting other aircraft, and avoiding them if necessary.

On September 16, 2005, the FAA issued *AFS-400 UAS POLICY 05-01*. It provides guidance to the FAA when evaluating applications for a Certificate of Authorization (COA). The COA is issued by the FAA and gives the operator permission to operate a UAS in the NAS.

The *Federal Register Notice (docket FAA-2006-25714), Unmanned Aircraft Operations in the National Airspace System (February 6, 2007)* clarifies the FAA's current policy concerning operations of UAS in the NAS. The Federal Register Notice clearly states that "no person may operate a UAS in the NAS without specific (FAA) authority. It also states that the FAA is continuing to develop regulations and guidance for UAS operations.

Last but not least, the FAA has determined that a UAS used for recreation or sport is a model aircraft and governed by *Advisory Circular 91-57*. The document also states that a UAS used to perform any type of work, is not a model aircraft. So, if you are flying a 'model remote controlled aircraft' you must follow the guidelines in AC 91-57.

In other words, stay below 400 feet above ground level, and away from populated areas.

We, as Federal agencies, must be committed to safety in order to integrate UAS operations into the NAS. The General Services Administration (GSA) and its Interagency Committee for Aviation Policy (ICAP) are doing just that. UAS are considered aircraft and Federal agencies must follow the *Federal Management Regulation 102-33 – Management of Government Aircraft*. This regulation outlines Federal aircraft operations from acquisition, use, to disposal. The 'use' as contained in the regulation includes management, operations, maintenance, training, and safety of all government aircraft, including UAS.

UAS are the next generation of aircraft and GSA and the ICAP are working with the FAA to develop reasonable regulations that will allow for the safe operation of Federal agency UAS in the National Airspace System.

Capital Acquisition and Planning Tools

By Bob Sherouse, GSA Aircraft Management Policy

Capital acquisitions are significant and generally require planning years in advance. How far in advance? If done effectively, the replacement capital asset planning begins when the original item is procured. "What… you may be asking at this point? Let me clarify. Let's say you need to buy a new airplane or specialty vehicle. Let's assume you are also using the Office of Management and Budget (OMB) Circular, A-11, Part 7, Exhibit-300. Keep in mind, this OMB Planning, Budgeting, Acquisition, and Management of Capital Assets process provides valuable decision making tools, including a requirement to determine total life cycle costs. With a well understood life cycle and all life cycle costs established for your airplane or specialty vehicle, you know going in, exactly when the item must be replaced. Done correctly, you may even factor in the actual future year cost of the follow-on replacement item. Why is this important? The simple answer – you know when the item will be worn out, you know how much it will cost to replace, you establish the residual value of the item being replaced, and can determine when to begin budgeting for the necessary acquisition dollars to replace the old item. Following are a few key considerations when establishing your capital asset plan.

Life Cycle Costs

Your life cycle may be a few years, a decade or more. Life cycle costs include fixed and variable costs. It looks at the cost to acquire the item, the cost to own and operate it and any residual value at the end of the cycle. You might consider this a trade in or offset value.

Choosing the right airplane/vehicle

This is done through the risk analysis and alternative analysis portion of the Exhibit-300 process, and will align your aircraft mission with the agency's mission. You'll need an aircraft/vehicle that is capable of performing your key missions without providing unnecessary or unneeded capacity. You might consider this "right sizing". Remember, bigger, faster and farther all increase your costs.

How to time your replacement

How long should you plan to keep the item? Provided the key missions don't change or fixed or variable costs don't increase dramatically, life cycle costs will help you make this call. Utilization rates are typically the key to watching actual and planned cost trends. Typically utilization rates are based on costs per hour or mile. To be accurate, you must measure using the same criteria.

Establishing a baseline

If an existing aircraft/vehicle is to be replaced, that becomes your baseline. If you buy, rent or lease; continuing to do so is your baseline. The baseline forms a basis for any comparison. Does a new option cost less then the current baseline? Does it cost more? If more, what do you get for the increased cost?

How often do I baseline?

Obviously, you must establish a life cycle cost baseline when you buy, rent or lease a new item. Annually thereafter, you must compare your baseline (planned costs) with actual operational costs. If there is a difference in planned and actual operations costs of more or less than 10%, you are obligated to report the difference and explain the variance. Periodically, you must reassess your baseline, and if necessary, you may also adjust the base line to factor in new lifecycle realities. Dramatic increases in fuel costs, usage rates, or labor costs would be addressed as part of new baseline.

Time value of your money

So should you buy, rent or lease your airplane/vehicle? If you rent/ lease the aircraft rather than buy it, you may be able to free up money for other purposes in your operations. Typically, however, in the long run, statistics indicate that rent/lease decisions cost significantly more that a straight purchase. Net Present Value and Cost-Benefit Analysis are common tools and part of a Life Cycle Cost analysis. With different OMB scoring rules, this is also where you might consider a lease-purchase agreement.

A Standard for Unmanned Systems

By Peter A. Buxbaum, *Special to Defense Systems*

One such set of standards is specified in the Navy' s Unmanned Surface Vehicle Master Plan: the Joint Architecture for Unmanned Systems which specifies data formats and communication methods for unmanned systems. JAUS describes a language to be used for communications between components developed and manufactured by different vendors.

The various USVs and their communications, navigation, command and control, weapons and other systems, each presumably developed and manufactured by disparate companies, would need to include a JAUS interface to allow them to communicate with one another. "This means, at the most basic level, that regardless of the communications method, the bytes going across the airwaves are all based on the JAUS messaging protocol," said Carl Evans, a senior engineer at Applied Perception, a developer of unmanned systems.

Although work began on JAUS in 1994, the Defense Department did not begin to push for its inclusion in unmanned vehicle projects until 2006. Even then, as the Army scrambled to send unmanned ground systems to Iraq and Afghanistan, the service was still buying systems that were commercial, proprietary, noninteroperable and not compliant with JAUS.

"We are now seeing JAUS compliance being increasingly specified in requests for proposals for new Defense Department contracts," Evans said.

Building JAUS standards into the family of USVs could help the Navy achieve some of the mission goals articulated in the master plan, said Evans, who is chairman of a JAUS working group subcommittee. The JAUS mission-planning task group is developing protocols for describing a mission in a general way and allowing this to be converted into an unmanned vehicle' s internal language, he said.

The Protector, *manufactured by BAE Systems, Lockheed Martin and Rafael Armament Development Authority, Ltd., is a remote-controlled Unmanned Surface Vehicle (USV) equipped with a stabilized mini-Typhoon weapon system (MK 49 Mod 0), cameras, radar equipment and electro optics.*

JAUS standards are also designed around plug-and-play weapons and payloads. An unmanned system equipped with a JAUS-compliant standard communications interface can accommodate video, audio and data communications capabilities, Evans said.

JAUS also accommodates the control of disparate weapons systems on unmanned vehicles from a single operator, Evans said. "It is difficult to control systems if you have to use two or more operator control units. We have demonstrated in JAUS experiments that a single operator can control as many as four different systems from separate vendors with a single control unit."

But JAUS does not provide a complete solution to interoperability. Although the JAUS language — which Evans said he regards as most important — has been developed to an advanced state of maturity, some messaging protocol issues remain. For example, different JAUS-compliant manufacturers persist in using

different rates and orders of messaging. Some transmit messages individually, and others transmit them in a batch for certain functions. Those issues are still being hashed out in JAUS industry group committees.

All of which leads Evans to conclude that "JAUS is not the perfect answer to interoperability. It' s not the best or the worst solution. It' s just [a] solution.

"The whole push to interoperability was sponsored by DOD to reduce its costs," he said. "The biggest selling point for JAUS is that it allows for very quick capability creation and implementation. We have demonstrated that you can easily adapt this open technology to new unmanned systems."

The USS Cole (DDG 67) is towed away from the port city of Aden, Yemen, into open sea by the Military Sealift Command ocean-going tug USNS Catawba (T-ATF 168) on Oct. 29, 2000. Cole will be placed aboard the Norwegian heavy transport ship M/V Blue Marlin and transported back to the United States for repair. The Arleigh Burke class destroyer was the target of a suspected terrorist attack in the port of Aden on Oct. 12, 2000, during a scheduled refueling. The attack killed 17 crew members and injured 39 others.

DoD photo by Sgt. Don L. Maes, U.S. Marine Corps.

Rough Seas Ahead for USVs

By Peter A. Buxbaum, *Special to Defense Systems*

Unmanned surface vehicles (USVs) might be the Navy's future, but they have obstacles to overcome

In October 2000, the guided missile destroyer USS Cole was attached in the Gulf of Aden. The Cole attack, accomplished by ramming the warship with a small speedboat laden with explosives, killed 17 sailors and left a huge gash in the Cole's hull.

A warship equipped with an outer network of unmanned surface vehicles — small craft propelled along the water's surface — might have repelled such an attack. That is part of the vision for USVs outlined in the Navy's Unmanned Surface Vehicle Master Plan,

issued in July.

"The USV vision is [to] develop and field cost-effective USVs to enhance Naval and Joint capability to support Homeland Defense, the Global War on Terror, Irregular Warfare and conventional campaigns," the USV Master Plan states. "USVs will be highly automated to reduce communication/-data exchange requirements and operator loading. They will deploy and retrieve devices, gather, transmit or act on all types of information, and engage targets with minimal risk or burden to U.S. and Coalition Forces." Navy officials declined to comment further for this story.

Unmanned vehicles have been viewed as a key component of defense transformation at least since the mid-

1990s. The Navy Department, which includes both the Navy and Marine Corps, will be unique among U.S. military services by eventually acquiring every major kind of unmanned vehicle.

At the policy and acquisition levels, unmanned air and ground vehicles have captured the lion's share of government attention and energy. The fiscal 2001 Defense Authorization Act, for example, set goals for the proportion of unmanned aircraft and ground vehicles to be fielded by 2010 and 2015, respectively.

A 2005 report from the Naval Studies Board recommended acceleration of the Navy's introduction of unmanned air,

underwater and ground vehicles without paying much attention to USVs.

The military services have been historically resistant to the introduction of unmanned vehicles, said Robert Work, a senior defense analyst at the Center for Strategic and Budgetary Assessments, a Washington think tank. "There was clear operational need for unmanned air vehicles, yet the Air Force pretty much fought against them until the 1990s."

Advances in flight control software changed the Air Force' s attitude, Work said, and now, the Navy is playing catch-up.

What got the Navy interested in USVs, Work said, was the advent of the Littoral Combat Ship. The LCS is designed as a high-speed vessel for operations in shallow waters close to shore. It is equipped with interchangeable mission modules that allow the ship to support anti-submarine, surface and mine warfare missions.

The LCS' modular design supports the incorporation of USVs. General Dynamics Robotic Systems has been awarded $12.7 million to develop USVs for the LCS.

"The LCS is designed from the get-go to use USVs," Work said. Using USVs with other naval warfare platforms, such as the DD(X) destroyer, requires cramming specialized cranes on to the deck of the warship for loading and unloading the craft.

If the LCS has inspired the accelerated development of USVs, it could also be the source of problems on several levels. But the LCS has run into trouble with Washington policy-makers. The Navy has canceled construction of one LCS contracted to Lockheed Martin because of cost overruns, according to reports in the Navy Times. A report from the Government Accountability Office found that some of the LCS' woes stem from the Navy' s desire to build a completely integrated and interoperable capability, taking the system-of-systems approach.

The Navy USV master plan calls for the same type of approach. This tack has landed other government programs in hot water because of technical and

Lockheed Martin Design Littoral Combat Ship (LCS)

management difficulties. But the master plan' s emphasis on the adherence to communications standards could mitigate some of those problems, said Carl Evans, a senior engineer at Applied Perception, a developer of unmanned systems.

That does not mean the Navy' s USV program is dead in the water, but it is unclear how USVs will be used in future naval combat.

The Navy' s Unmanned Surface Vehicle Master Plan reviewed various available USV types and characteristics, analyzed the attributes associated with USV missions and compared vehicle attributes to mission needs. The review led to the conclusion that smaller USVs, seven to 11 meters in length, should be the backbone of the USV fleet. These are divided into four classes of vehicles — X, Harbor, Snorkeler and Fleet — to perform missions such as searching, minesweeping, towing, anti-submarine activity, electronic warfare and others. The master plan also advocated technology investments that would minimize the use of bandwidth by individual USVs, enable obstacle and collision avoidance, and develop coupled payloads and weapons. The plan also called for developing USVs consistent with the Defense Department' s Joint

Architecture for Unmanned Systems (JAUS). "What is striking about the master plan is that it essentially says that we' re going to take standard stuff we already have and develop a master plan around them," Work said. "The plan advocates the continued use of the seven- and 11-meter rigid inflatable boats (RIBs). The Navy already has the infrastructure to support them. Most ships have the cranes to support seven- and 11-meter USVs."

Work said the Navy will follow the pattern the Air Force has set for unmanned aerial vehicles. "First they built the Predator, then they went to the Global Hawk. The same thing will happen with USVs. If they prove useful, they will build bigger ones. They may go to a 20-meter RIB with more payload and more capabilities. But you have to get them into the fleet first to prove their worth. A squadron of 40 or 50 USVs could do what a frigate has done in the past and do it cheaper because there are no personnel onboard."

The system-of-systems approach in the master plan means at the simplest level that "every piece fits within the whole," Work said. At a higher level, "all parts of the network are interconnected so that

they can talk to each other and share data."

"Interoperability involves more than the cross-compatibility of information systems and messaging," Evans said. "What we want to do is make a generic base platform on which different modules can be placed. If the vehicle' s mission is a rescue operation, a patient bay module would be slid on. If the next mission is for reconnaissance, you can take that off and put on intelligence, surveillance and reconnaissance sensors. This will involve incorporating a standard mounting interface into the design." Standard power, network and video interfaces will also be included.

But, Work said, developing separate components that "sync up is one of the consistent challenges present in any network system." The Navy wants a series of products manufactured by different vendors that will be able to interoperate with one another, share data seamlessly and be operated from a single location. This system-of-systems approach employed by DOD in the past involves an "arrangement of interdependent systems that are related or connected to provide a given capability," a January 2006 GAO report said. But this same approach has been discredited in several instances, especially in cases that demand high levels of systems engineering and integration.

"There is a tendency for big defense contractors to want to propose and build these very complex and elaborate programs," said Philip Coyle, senior adviser at the Center for Defense Information, a Washington-based research organization, and a former assistant secretary of Defense. "These programs can be very difficult to manage and very expensive and complex. They say you should never run before you walk or walk before you crawl, but in these programs, the contractors often jump in with both feet, and the programs then crash of their own weight."

GAO has documented some of the management difficulties associated with large integrated projects. "Programs that are intended to produce interdependent systems are too often managed

independently," GAO said in its January 2006 report. "DOD program management and acquisition oversight tend to focus on individual programs and not necessarily on synchronizing multiple programs to deliver interdependent systems at the same time, as required to achieve the intended capability. Developing more technical complex families of weapon systems as one package "vastly increases management challenges and makes it more difficult to oversee contractors," GAO said.

Those management difficulties have manifested themselves in the Coast Guard' s Deepwater modernization program, an effort run jointly by Northrop Grumman and Lockheed Martin.

"That program continues to face a degree of underlying risk, in part because of the unique system-of-systems approach with the contractor acting as overall integrator," GAO said in an April 2006 report.

In addition to the management difficulties inherent in large government procurements there are technical difficulties associated with the integration of technologies and data.

"Software problems in complex systems can be quite daunting," Coyle said. "If some of the code is written by one company in India and another part by a different company in the United States, it is easy for things to go wrong unless communications are outstanding."

As GAO said in its January 2006 report, there are significant risks inherent in attempting to develop a fully integrated system. "The loss of any part of the system will significantly degrade the performance or capabilities of the whole," the report states.

There are several cases in point. The Navy' s DDG-51 destroyer, FFG-7 frigate and LPD-4 Amphibious Transport Dock Ship, each representing an integrated systems approach, experienced problems with subsystems. The problems, GAO said, have affected the vessels' day-to-day operations, including online training and personnel activities. The Army' s Future Combat

Systems, another network-centric project, has also faltered on requirements and schedules, according to GAO. A December 2005 GAO report cited two key FCS components, the Joint Tactical Radio System and the Warfighter Information Network-Tactical, for raising "uncertainty about the ability of the FCS network to perform as intended," GAO recommended establishing low-risk schedules for JTRS and WIN-T.

Thereafter, the JTRS program was reorganized to reflect more modest but achievable goals. WIN-T took a hit on its funding and scheduling and was also reorganized.

Despite the difficulties in developing an interoperable family of USVs, Work said he expects demand for USVs to grow during the next 10 years. "The next iteration of USVs will probably call for bigger and more capable craft."

Nor does Work expect the fate of the LCS to dictate the future of USVs. "The Navy has said that even if the LCS goes away, USVs will still be utilized by other ships," he said. "I foresee the Navy issuing tenders for USVs in the 20s and 30s rather than onesies and twosies."

Work said he believes the master plan is a "good first step" to the eventual introduction of USVs to the arsenal of naval combat capabilities. "It outlines the conceptual mission and leverages existing infrastructure. It lays out a relatively reasonable approach. If the concept proves out, it will lead to bigger and better things."

Work said he expects the future development of USVs to follow the trend already established by the Air Force in the development of unmanned aerial vehicles. "No one is clamoring for USVs right now," he said. "But once you get them in the water and in the hands of sailors who have been trained in their use, they will probably find ways to use them that have not even been considered today."

GSA Moves Forward in Implementing a Vehicle Registration System

By Mike Moses, GSA Vehicle Management Policy

GSA's Office of Governmentwide Policy has been working closely with all Federal agencies since January 2007 to develop the methodology for a government-wide motor vehicle registration system. During this period, agencies and other stakeholders have met numerous times to design and document the system's methodology, address security concerns, and identify resource and budget impacts. This collaborative effort lead to an agreement with the GSA Federal Acquisition Service's Fleet Program to expand its vehicle registration system, and fully deployed a government-wide system in Fiscal Year 2009.

Presently, the Federal Government does not maintain a central repository of license plate information for Government's motor vehicles, making it difficult to quickly identify valid license plates and the vehicle's location. The new system will contain all vehicles owned and commercially-leased by Federal agencies that display official license plates. Agencies are encouraged to enter Federal motor vehicles displaying state license plates, as well as delivery vehicles of the United States Postal Service, in the new system, but entry of these license plates is optional at this time. The system will be accessible by law enforcement officials at the Federal, State and local levels through the International Justice and Public Safety Network (Nlets). Access to the Federal Motor Vehicle Registration System will be similar to the access law enforcement officials have to all State licensed vehicles through individual State Motor Vehicle Administrations. Developed to address national security concerns

and accountability of motor vehicle assets, this system will allow law enforcement activities to quickly identify and verify Federal vehicles, including valid licensing and operational location.

An associated goal of this initiative was to increase the security and accountability of official U.S. Government license plates. Currently, official plates never expire and could be used for unofficial purposes for extended periods of time. As a result of this initiative, Federal agencies will begin using a newly-designed license plate in Fiscal Year 2009 that will have a new graphic image and an expiration date. Additionally, all official plates will be entered into the system when manufactured, and tracked throughout the plate's life.

GSA Fleet already provides access to Nlets for its 200,000 motor vehicle fleet. Because of their existing program to supply Nlets data on their vehicles and their vision to enhance national security, GSA Fleet is expanding the development and operation of the Federal Motor Vehicle Registration System at no cost to Federal agencies. Their extensive experience in the management of vehicle fleets and their automation accomplishments makes their operation a perfect fit for implementing this system.

Agencies will receive instructions on how to enter their existing, in-use vehicles into the Registration System during the third quarter of Fiscal Year 2008. We anticipate that all existing vehicles will be entered into the system by January 2009.

Contact: Edward Lawler @ (202) 501-3354 or ed.lawler@gsa.gov

2007 Annual Federal Fleet Report Released

The Federal Fleet Report for Fiscal Year 2007 was published on the FAST website on January 31, 2008. It can be viewed here: https://fastweb.inel.gov.

Some highlights:

Inventory grew significantly, about 1.8 percent overall. That's a 12,000 vehicle increase in one year, from 630,000 for fiscal year 2006 to 642,000 for fiscal year 2007. The military led with 2.9 percent, followed by the Postal Service (1.7 percent), and the rest of the civilian agencies (1.1 percent).

Acquisitions were stable, but with some interesting things going on under the surface. In previous years diesel and alternative fuel vehicle acquisitions have grown while gasoline vehicles declined; in 2007 gasoline and diesel both declined, probably due to new emissions requirements for diesels raising their cost.

The recent trend from sedans toward SUVs appears to have leveled off. But now there's a new movement from compact sedans to midsize. This seems to be the result of the effort to get E-85s that are not available as compacts, and an anomalous situation where compacts were actually costlier than midsize last year.

The dramatic reduction in fuel consumption reported in 2006 was almost exactly reversed in 2007. This is almost certainly a reflection of agencies' continuing difficulty in collecting and reporting accurate fuel data.

Miles traveled was almost perfectly flat from 2006 to 2007, despite the substantial increase seen in overall inventory.

Operating costs, like miles, was almost perfectly flat, even declining slightly.

New for 2008:

In 2007 an OMB Budget reconciliation sheet was attached to FAST as an Excel spreadsheet. It will be integrated into the FAST reporting process in 2008. The data entry for this will be completely redesigned, and there will be revised and expanded instructions. It will also be addressed during FAST training sessions at the FedFleet event in Dallas, June 24-26, 2008.

If your agency needs special onsite training, you can contact Michelle Kirby at INL on (208) 536-4273 or via email at michelle.kirby@inel.gov.

With the rapid turnover in fleet personnel agencies are experiencing, if someone who uses FAST in your agency is leaving, please make sure that a replacement is trained before the next data call. It is so much easier and more efficient to train someone before the system opens for data entry and you have a crisis on your hands.

Contact: Edward Lawler @ 202-501-3354 or ed.lawler@gsa.gov

Would You Like OGP to Attend Your Agency Meetings?

GSA's Office of Governmentwide Policy (OGP), Office of Travel, Transportation and Asset Management, is available to participate in agency meetings, whether they are regional or national – small or large. Many agencies take advantage of OGP's fleet management expertise by inviting us to attend agency meetings and conferences and provide presentations on government-wide policies and programs. OGP views this interaction as part of our core mission to assist agencies, and attendance at agency meetings also helps OGP understand the varied issues and complexities of fleet operations outside of the Washington DC area. OGP believes that this interaction helps create good, workable policies in collaboration with agencies, while also helping field personnel understand why policies and programs are developed and implemented.

To help us plan, OGP asks that agencies desiring our participation in agency meetings notify us at the start of the fiscal year to assure that appropriate personnel are available.

Contact: Jan Dobbs @ (202) 501-6601 or janet.dobbs@gsa.gov

GSA Hosts Aviation Strategic Planning Workshop, March 18-20, 2008

GSA's Office of Governmentwide Policy hosted the Interagency Committee on Aviation Policy's (ICAP) Strategic Planning Workshop at GSA's Federal Acquisition Service conference center in Crystal City, VA in March 2008. Representatives from each agency that own or lease aircraft participated in the planning session to develop a plan to enhance government-wide aircraft programs. The plan outlines strategies to identify future challenges and maximize limited resources by sharing aviation expertise and talent throughout the Federal aviation community.

The ICAP has defined the following four strategic goals to ensure that executive agencies are able to meet agency missions in the safest, securest, and most efficient and effective manner. Safety: The goal of this initiative is to foster the safest aviation program within the Federal Government. Stewardship: The goal of this initiative is to improve the acquisition, use and disposal of aircraft.

Policy Effectiveness: The goal of this initiative is to effectively engage with external stakeholders to shape the US/International aviation policies. Management and Performance: The goal of this initiative is to ensure the accuracy and reliability of all cost and utilization data across Federal Aviation Programs.

Contact: Jan Dobbs @ (202) 501-6601 or janet.dobbs@gsa.gov

Retirements

John T. Hughes

John Hughes was the U.S. General Services Administration' s Agency Internal Fleet Manager. During his career with GSA, John also worked for the National Archives Record Service in the Records Management Division and was the GSA FOIA Appeals Officer. He also worked at MCI as the Corporate Records Manager. John volunteered to be Chairman of the FedFleet Steering Committee and was master of ceremonies at the annual FedFleet Workshop. For pleasure, he a Civil War reenacter, serving as Commander of an artillery unit.

David Fuchs

Dave Fuchs was responsible for Headquarters, Department of the Army staff supervision of the Army's Non Tactical Vehicle (NTV) Program. He managed the development, coordination, defense and execution of the Army' s NTV programs. In September 1974 he began his career with the Military Traffic Management and Terminal Service and entered their intern program in October 1975. Upon completion of his intern program, Dave held a series of increasing responsible positions.

WELCOME!

Bob Dunn

Bob Dunn is a contractor who is the Department of Homeland Security' s aviation program manager. His company is Defense Solutions. His primary duties are with FAIRS, required uses and policy development.

KUDOS FOR SCORECARD RATINGS

Labor and Treasury got a "green" score for Current Status and Progress on the Transportation Scorecard.

Energy, Interior, and Social Security got a "yellow" score for Current Status and "green" for Progress.