Defense Logistics Agency Energy

ENERGY SOURCE

October 2013

UNIQUE DLA ENERGY COMMODITIES

COAL • ROCKET FUEL • HELIUM

from the commander —

Brig. Gen. Giovanni K. Tuck, USAF

Defense Logistics Agency Energy

When I first got here, I'll be the first to say I didn't know what DLA Energy really did. I had no idea the depth of our organization, what we provide to the warfighter and just how global our operation really was. For someone to come in to DLA Energy who really doesn't have a grasp of what we do – our mission, roles and responsibilities – what I'd like for them to take away is that we are moving towards "all things energy" for our customers.

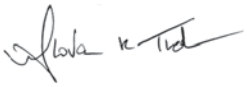
For anyone taking a first look at DLA Energy, they need to realize that our non-petroleum missions are just as important as our petroleum missions. We work all the time with products that support alternative fuels, aerostats, NASA's space program and utilities such as electricity, natural gas and coal to name a few. It's not just about petroleum, although that is the bulk of what we do.

Since the military services are our customers, their non-petroleum energy needs become our priorities as well. For the Army, helium is huge. They're using it to float aerostats that provide an extra set of eyes in the air in Afghanistan. The Navy has been in the spotlight for its Great Green Fleet that we support through research and development with alternative fuels, which we've assisted through procurements of drop-in biofuel blends as recent as last year's Pacific RIMPAC Naval Exercise. The Air Force has used Fischer-Tropsch fuels we procured for their alternative fuels engine program. NASA also takes advantage of our support, with our liquid propellants helping to launch Atlas V rockets and more.

Our teams cover non-petroleum assistance closer to home as well. From natural gas to energy savings performance contracts and so much more, our Installation Energy folks are ready to wherever an installation might have a unique energy need. And the same goes for our Utility Privatization team, handling contracts for energy infrastructure and electricity on installations that saves DoD money in the long run.

Our core competency is still acquisition and petroleum is our largest product line, but if there's a way that we can satisfy a customer's need in a cheaper, more efficient or more effective way with other commodities in our portfolio, we will certainly help our customers in that market.

Everything comes down to warfighter support, and I'd like to close on my recent travel to the Pacific. Thanks to our Pacific leaders for providing the forum, allowing me great insight into critical infrastructure and access to senior leaders. This will pay huge dividends by continued partnership. It also provided us areas where we need to focus and have the trust and confidence to produce results, from ensuring the flow of fuel to Okinawa, Japan, to events surrounding the government shutdown and keeping the senior leaders we met informed.



Energy Source

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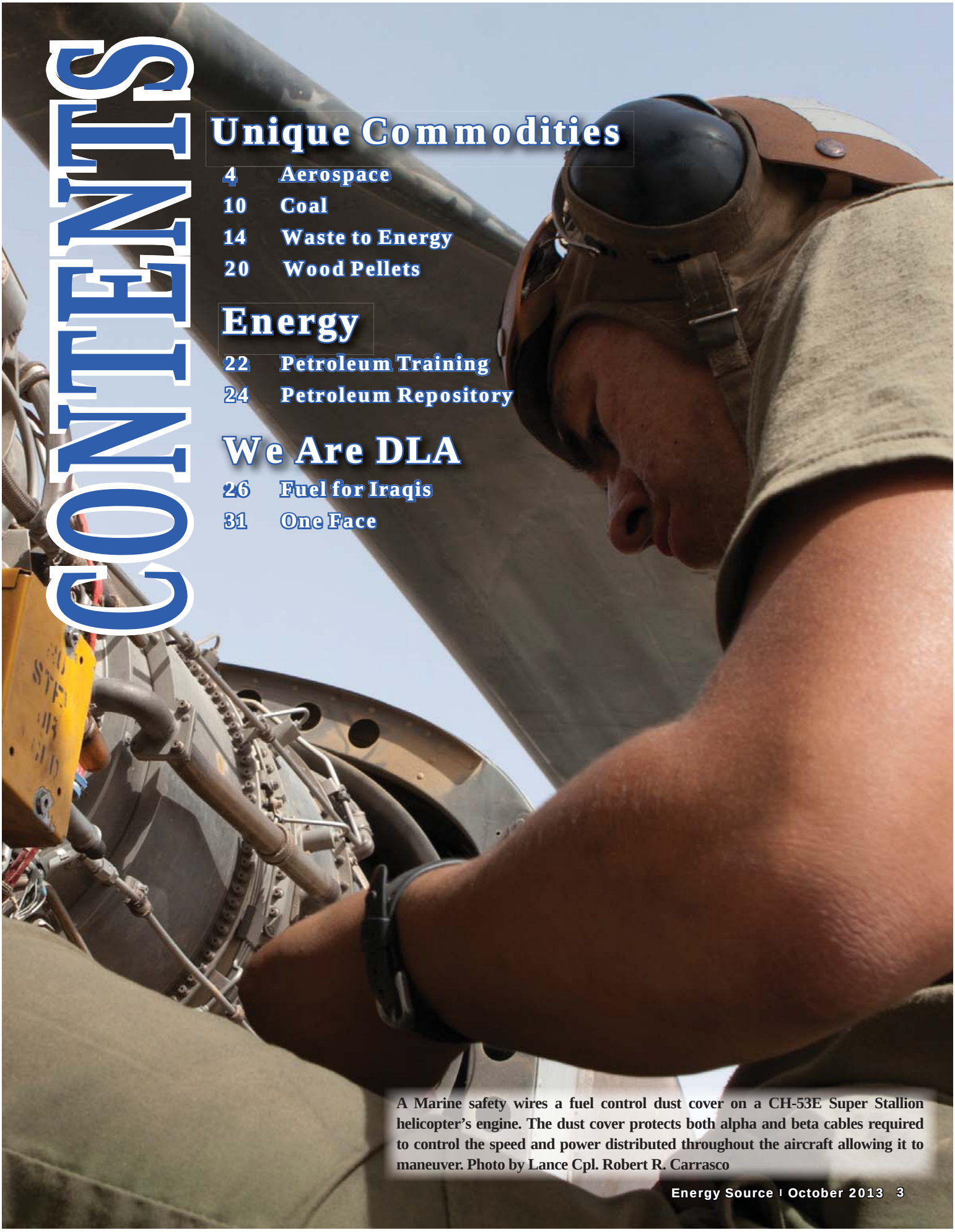


A Marine safety wires a fuel control dust cover on a CH-53E Super Stallion helicopter's engine. The dust cover protects both alpha and beta cables required to control the speed and power distributed throughout the aircraft allowing it to maneuver. Photo by Lance Cpl. Robert R. Carrasco

Full servic

By Terry Shawn

When it comes to handling unique commodities for Defense Logistics Agency Energy, it is hard to find a more efficient, all-encompassing operation than that of DLA Energy Aerospace Energy in San Antonio.

Does your requirement list include JP-10 missile propellant for Tomahawk and Harpoon missiles? Or hydrazine to mix with dinitrogen tetroxide for use as a bi-propellant to steer a satellite in space? Need 25,000 cubic feet of helium gas to lift an Army reconnaissance/surveillance aerostat delivered to a remote location in Afghanistan? Or perhaps a delivery of 2,500 gallons of dinitrogen tetroxide and monomethylhydrazine to propel, maneuver and dock your space craft in the zero gravity of space?

For these products and more, DLA Energy's Aerospace Energy business unit is the one-stop procurement business unit.

"From going to war to going to outer space, DLA Energy's Aerospace Energy does it all," said DLA

ce outlet

Energy Commander Air Force Brig. Gen. Giovanni Tuck.

With a customer list that includes the Department of Defense, NASA, the Department of Energy, all the services and local, state and foreign governments, DLA Energy Aerospace Energy is unique in that no one procures the same commodities – all of which are considered hazardous materials – for the federal government, the warfighter, commercial entities and universities.

"Helium used to support the U.S. Army's Operation Enduring Freedom aerostat program, providing forward operating locations with 'eye in the sky' watch capability, is all contracted by our DLA Energy Aerospace Energy team," Tuck said.

"Our aerospace workforce also provides outstanding support to NASA and the U.S. Air Force by procuring liquid rocket and missile fuel as well as propellants to support space, based launch assets," the DLA Energy commander added.

An aerostat technician connects cables to the bottom of an aerostat in Afghanistan. The DLA Energy Aerospace Energy team contracts helium to be used to support the U.S. Army's Operation Enduring Freedom aerostat program. Photo by Army Sgt. Brent Powell

Getting into space

As authorized by the Commercial Space Launch Act, signed into law by President Ronald Reagan in 1984, DLA Energy supports commercial space launches, such as those conducted by private industry's Space X, Orbital Science and United Launch Alliance. These companies are supported with products like high purity hydrazine for the thrusters of the Atlas V, Delta II and IV, Antares and Falcon 9 rockets; components to maneuver and dock a rocket's payload in space and liquid helium and gaseous nitrogen for ground support.

"Every U.S. satellite in orbit today is carrying fuel provided by DLA Energy," said DLA Energy Aerospace Customer Facing Chief Ken Grams.

The business unit provides products such as dinitrogen tetroxide, monomethylhydrazine, monopropellant hydrazine, high purity hydrazine and even xenon, which is used to enable satellites to alter or correct their course in space.

"The mission here is an exciting one. [Recently], the United Launch Alliance put a rocket in space that carried a payload for the National Reconnaissance Office that launched from Vandenberg Air Force Base, Calif., with DLA Energy Aerospace Energy-procured fuel," said DLA Energy Aerospace Energy Supplier Division Chief Doug Smith.

"The work done here is important, exciting, and supports the national defense," Smith said.

The San Antonio-based business unit also provides propellants for the new Wallops Island, Va., launch facility, the launch range supporting the Orbital Sciences' Antares rocket, and as authorized by the Commercial Space Launch Act, and procures components for Purdue University's testing program for potential new thrusters.

And they deliver

"Transportation management is a huge part of what we do," DLA Energy Aerospace Energy Logistics Management Specialist Charlene Smoot said.

Regular deliveries are not practical because of the hazardous nature of the commodities and their use, especially for

space launches and special programs. The commodities require a variety of specialized transport and handling requirements.

DLA Energy Aerospace Energy's transportation management specialists must ensure carriers have the right certifications, licenses and background checks. They must also ensure carriers are properly equipped for and follow special transportation requirements for the products and programs they are supporting. Equipment and requirements could include satellite tracking, escorts and dual drivers so the hazmat vehicle does not have to make stops along the route, Smoot said.

The business unit's delivery capabilities were put to the test as they sought to support the warfighter and helium programs in the Middle East, where no resource for the component was readily available.

Helium: Keeping the eye in the sky

DLA Energy Aerospace Energy began supplying the U.S. Central Command's area of responsibility with bulk helium in 2003 when the first aerostats deployed in support of Operation Iraqi Freedom.

The Army and Navy use DLA Energy-procured helium for a number of programs that use lighter-than-air aerostats. These aerostats, which are similar to the commercial blimps seen every football season over stadiums around the country, are used in forward operating bases for battle intelligence gathering, surveillance, reconnaissance and communications purposes.

However, there was no natural source for helium in Iraq or Afghanistan.

The need for bulk helium for the aerostats used by the Army's Persistent Ground Surveillance System forced DLA Energy Aerospace Energy transportation specialists to create and reinvent the helium supply chain in Afghanistan.

The first deployable liquid-to-gas helium conversion facility inside Afghanistan was established in October 2010. This one-of-a-kind transfill station was designed to decrease the dependency of airlifted gaseous helium.

The San Antonio team continued, however, to explore ways to deliver this component to the warfighter in the Middle East.

August 2012 marked the first time two large bulk containers of the liquid helium product were airlifted at the same time into the region.

After offloading, the containers traveled to DLA Energy's helium defense fuel support point, where the liquid was

Sailors prepare to load a Tomahawk land attack missile onto the USS Michigan. DLA Energy Aerospace Energy personnel procure JP-10 missile propellant for Tomahawk and Harpoon missiles. Photo by Navy Seaman Apprentice Samuel Souvannason

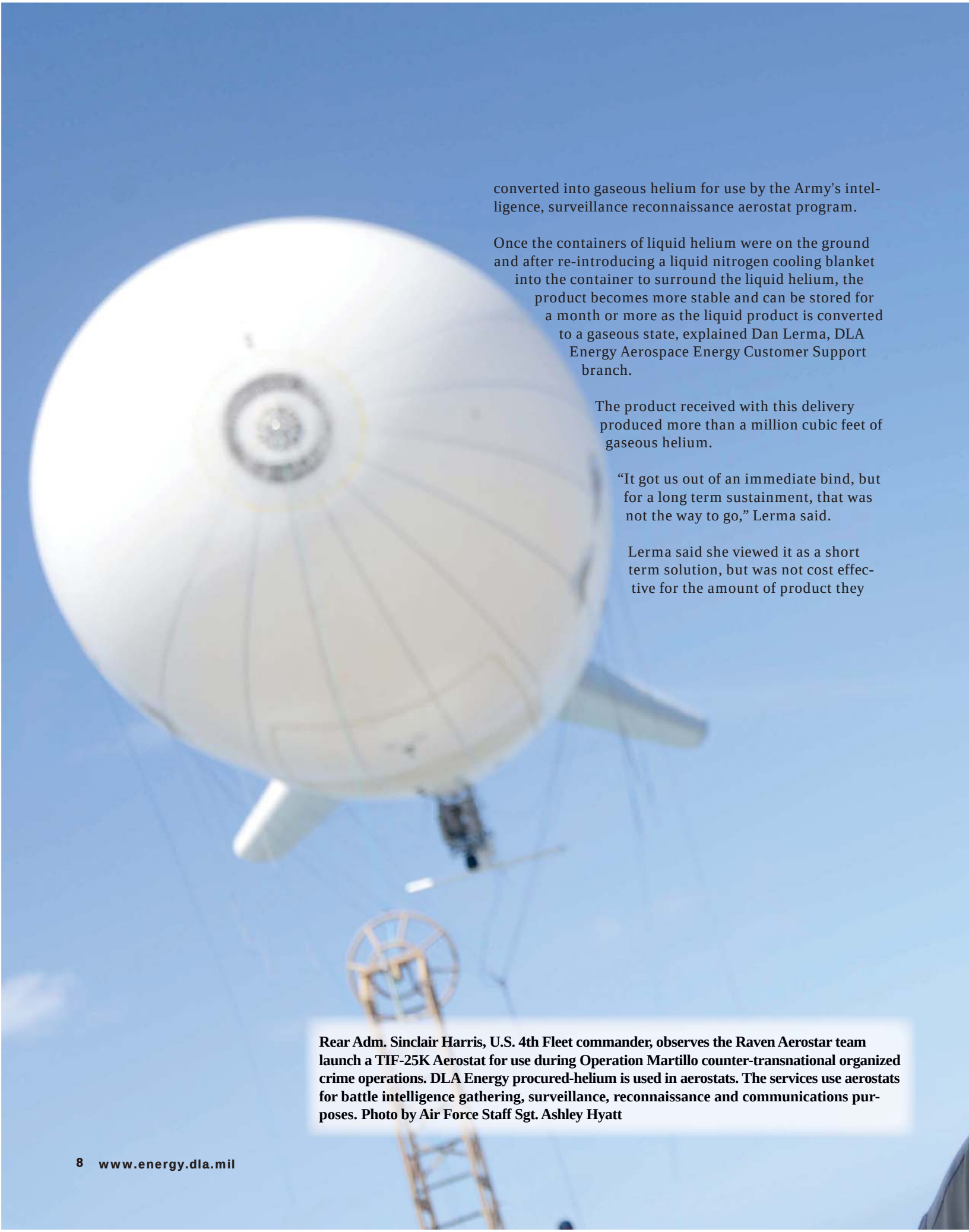
converted into gaseous helium for use by the Army's intelligence, surveillance reconnaissance aerostat program.

Once the containers of liquid helium were on the ground and after re-introducing a liquid nitrogen cooling blanket into the container to surround the liquid helium, the product becomes more stable and can be stored for a month or more as the liquid product is converted to a gaseous state, explained Dan Lerma, DLA Energy Aerospace Energy Customer Support branch.

The product received with this delivery produced more than a million cubic feet of gaseous helium.

"It got us out of an immediate bind, but for a long term sustainment, that was not the way to go," Lerma said.

Lerma said she viewed it as a short term solution, but was not cost effective for the amount of product they



Rear Adm. Sinclair Harris, U.S. 4th Fleet commander, observes the Raven Aerostar team launch a TIF-25K Aerostat for use during Operation Martillo counter-transnational organized crime operations. DLA Energy procured-helium is used in aerostats. The services use aerostats for battle intelligence gathering, surveillance, reconnaissance and communications purposes. Photo by Air Force Staff Sgt. Ashley Hyatt

were expecting.

Not all helium programs supported by DLA Energy Aerospace Energy are as challenging as helium operations in Afghanistan, but they are not immune to challenges such as the worldwide shortage of helium.

Regarding the helium shortage, which according to the Bureau of Land Management's website will continue through 2013, Gram said, "It's been a challenge, but we've been able to work around it."

Other special programs requiring helium from DLA Energy's Aerospace Energy business unit include research and development programs conducted by the military services.

The Department of Homeland Security uses aerostats for border surveillance, drug interdiction and TV and radio signal reception and transmission which are kept aloft by DLA Energy-procured helium.

At the Army Research Labs in Aberdeen, Md., DLA Energy provides helium for the lab's research with the cold spray process to repair damaged aluminum helicopter masts with the use of a commercial, field portable cold spray system capable of restoring dimensions of corroded or badly worn components, resulting in repairs that would be considered flight worthy.

Along with support to space and weather programs, the San Antonio-based business unit provides helium for a number of Air Force projects including laser effect research, which tests the high energy laser devices; plasma spray plating and repair for aircraft engine parts and helium plant support to enable the Air Force to test equipment for leaks before sending it into space.

"This small team in San Antonio, Texas, is responsible for global operations and we couldn't be more proud of Sharon Murphy [former DLA Energy Aerospace Energy Supplier Division chief], Doug Smith and Ken Grams and all of Aerospace Energy for carving a niche and making themselves indispensable to the warfighter and other federal governmental agencies," Tuck said.

DLA Energy's Aerospace Energy leads the way in procuring requirements for various Department of Defense, federal and private industry customers and their assorted missions that may range from research and development, rocket and missile propulsion, navigation, missile defense, surveillance/reconnaissance, maintenance and life support, Grams said.

"And when the requirement calls for the safe delivery of these hazardous products, Aerospace Energy will get these exotic and often rare materials to their destinations as promised to help ensure mission success," he added.

Contracting coal's

By Christopher Goulait

Coal's large role in energy generation may not make it a unique product, but a contracting process tailored to match a customer with the exact type of coal they need sets it apart from business as usual at the Defense Logistics Agency Energy.

Customers' equipment, locations and requirements, along with coal variation depending on its source makes coal contracting a matching game heavy on interaction between customers and vendors.

Between nine facilities in the continental U.S. and three in Alaska, each location has its own needs, explained Charles Tiggs, DLA Energy Installation Energy's Coal and Consulting Services branch division chief.

"Each customer's specification for their coal is different, which sets coal aside from fuel or natural gas," Tiggs said. "For example, with Malmstrom Air Force Base [Mont.,] we euphemistically call their coal 'gold-plated coal' because their requirements are so stringent that we get very few offers in."

The Malmstrom base can only accept a very specific type of coal because of their equipment, but other installations are more flexible in what they can use, he continued.

"Everyone has their own unique specifications," Tiggs said. "The age and conditions of the power plants and boilers are what really drive the unique specifications of the coal."

There can be quite a few specifications for any given contract, said Joanie Brickhill, DLA Energy Installation Energy's Coal Program lead.

She explained that requirements can include sizing, moisture maximums, ash maximums and minimums, volatile matter minimums, sulfur maximums and BTUs, and each state's Environmental Protection Agency office has strict sulfur standards that must be met. Mercury and chlorine levels are also new requirements, with many locations already testing for those levels now.

"The strictness of a requirement in terms of specifications is going to affect the level of competition we get," Brickhill said. "The stricter the requirements, the fewer offers are received."

"It's not a straightforward and neat process," Tiggs added. "The reason I say that is some customers want their coal washed. Some customers we have to apply freeze conditioning to minimize coal dust. Sometimes we have to go through three different conveyances just to get the coal to its destination."

"While it may not sound like it's a lot to go from barge to rail to truck, if you have force majeure conditions like a river freezing in the winter, it's hard for the customer to get their coal," he said. "If we don't pre-plan, we would have some major problems with our customers being able to complete their missions."

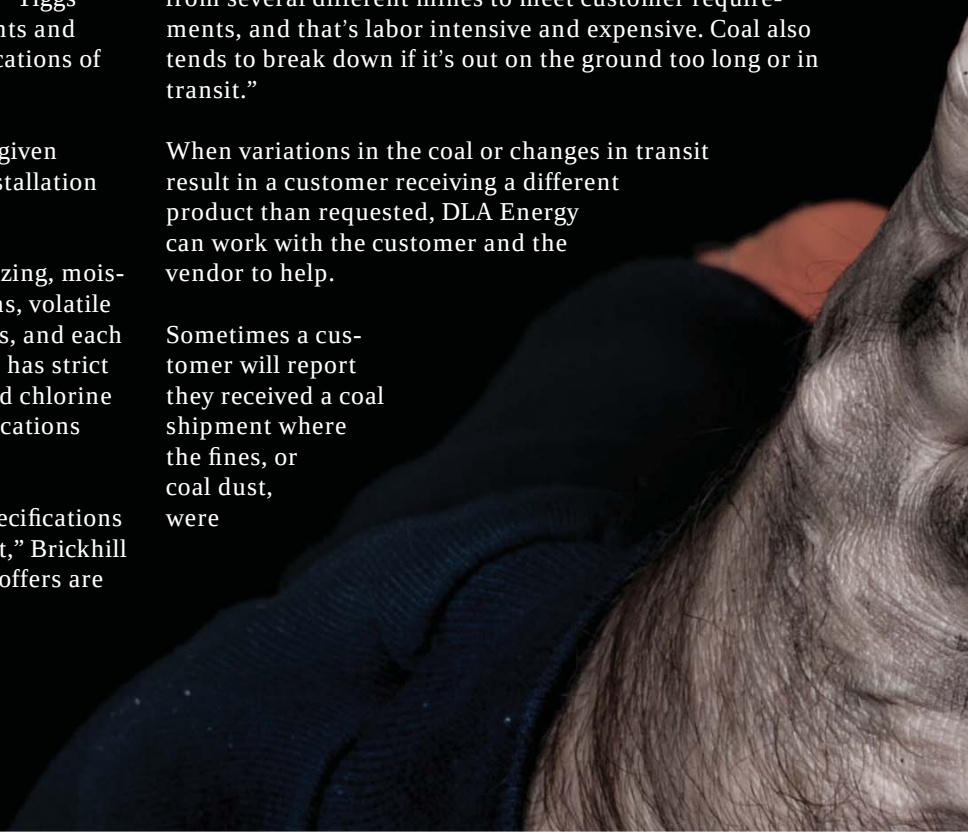
Coal's properties make that planning an intensive process between DLA Energy, the customer and the vendor, Brickhill said.

"In a coal mine, coal is in different seams under the ground," she said. "One seam could be different than another that is miles away. For example, coal mines out in Colorado often have lower sulfur, higher BTU content, but here closer to Appalachia, we have higher sulfur."

"Coal is its own little animal," Tiggs added. "There's no one source we're going to use and buy to meet all of our customers' needs. Sometimes it may require blending coal from several different mines to meet customer requirements, and that's labor intensive and expensive. Coal also tends to break down if it's out on the ground too long or in transit."

When variations in the coal or changes in transit result in a customer receiving a different product than requested, DLA Energy can work with the customer and the vendor to help.

Sometimes a customer will report they received a coal shipment where the fines, or coal dust, were



s perfect match

A stockpile of coal maintained by the base power plant at Eielson Air Force Base, Alaska. In the event of coal delivery disruption, such as a natural disaster or a mine strike, the power plant maintains a stockpile of coal. Photo by Air Force Airman 1st Class Rachel Walters

too high, or the moisture content was off, Brickhill said. DLA Energy can work with the customer and the vendor to negotiate a price reduction for that shipment and ensure the customer doesn't pay full contract price for that lower-quality coal.

Negotiations between customers and suppliers aren't just limited to off-specification deliveries.

"Coal is also a fairly customer interface-intensive program because of issues arising from shipments, equipment, quantity or quality adjustments or warmer or cooler than expected temperatures," Tiggs said. "A warmer than expected winter can result in the customer needing sometimes as much as a third less coal, so we have to try and re-negotiate. The customer interface between us and the customers is extremely heavy then."

Unpredictable seasons are an example of why DLA Energy tries to strike a balance between definite quantity and requirements-based structures in contracts, Brickhill said.

Tiggs said some contracts previously required that 80, 90 or 100 percent of the contracted amount of coal be guaranteed to be used, which is ideal for vendors. Customers, however, want the flexibility to use anywhere from 0 to 100 percent.

"Coal is its own little animal. There's no one source saying this is what we're going to use and buy to meet all of our customers' needs. Sometimes it may require blending coal from several different mines to meet customer requirements."

Charles Tiggs
DLA Energy Installation Energy's Coal and Consulting Services Branch Division Chief

"We've had to reduce some of those definite quantity percentages down to something that was equitable and fair to both parties," Tiggs said. "We have some people who would say they do have a 100 percent requirement, but others are lower depending on what they feel their particular needs are."

DLA Energy's involvement with coal continues past the contracting process when it comes to amounts of coal customers have and use.

"Because of transportation and supply challenges that we have, we carefully monitor each customer's stock on a monthly basis," Brickhill said. "Each month, we want to know how much they're burning, how much they have stockpiled and what their burnout dates are. We monitor that so we can stay ahead of the curve and make sure these customers have adequate supply and that we're never caught off guard with an emergency buy."

"We don't wait for them to come to us to tell us when their stockpile is low; we monitor their usage through the duration of the contract," Tiggs said.

That kind of cradle-to-grave service comes with each coal contract DLA Energy awards, Tiggs said.

While there is some give and take between coal and natural gas contracts to best meet facilities' energy heating and generation needs, Tiggs said coal is still the most abundantly used utility source in the U.S. and will continue to be a part of DLA Energy's energy support portfolio.

Brickhill agreed, and said with the changing requirements, the program is still evolving. Clean coal initiatives are driving customers to make sure they're burning a cleaner coal, and DLA Energy will continue to support their needs in the future. ES

Graphic by Christopher Goulait

DLA Energy works with its customers to fulfill requirements based on these, and more, characteristics of coal

Waste to fuel

By Amanda Neumann, DLA Public Affairs

Military forward operating bases generate large amounts of solid waste, including everything from kitchen scraps to packaging. A new research and development project is helping Defense Logistics Agency Energy turn that waste into fuel. The mobile waste-to-liquid-fuel project, developed in conjunction with the Community Power Corporation, has produced a prototype system that can extract 40 gallons of fuel from a ton of dry waste.

"We wanted to develop a mobile system that could be applied to FOBs overseas to take advantage of any type of carbonaceous waste, such as paper, plastic, cardboard and wood, they regularly generate," said Lindsey Hicks, DLA Energy chemist and strategic energy program manager. "It's not only a waste management system for them, but it also produces enough usable fuel to supplement DLA Energy's deliveries to those FOBs, easing some of the burden of getting fuel to those locations."

The project is one of several the agency procured using funds from the 2009 American Recovery and Reinvestment Act, Hicks said.

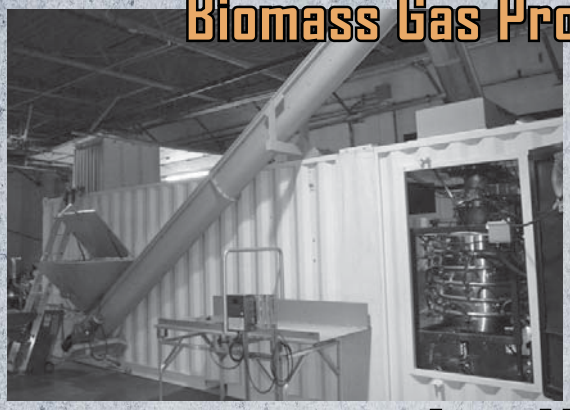
A front loader deposits trash into the compactor unit at a solid waste transfer station in Kirkuk, Iraq, in November 2009. A new waste management prototype aims at helping reduce waste at forward operating bases by turning it into liquid fuel, easing the burden of DLA Energy's fuel deliveries. Photo by Michael Scheck

The Waste-to-Liquid-Fuel Process

Waste Processing

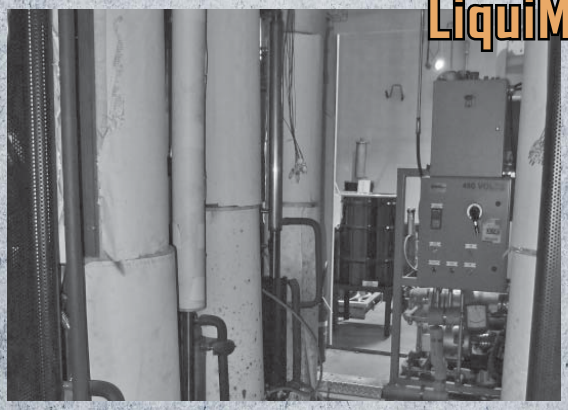
Different types of waste material are properly dried and compressed into small pellets (briquettes) before being passed to the biomass gas production module.

Biomass Gas Production



Briquettes are heated to 700-900 degrees Celsius, converting them to a synthetic gas of carbon monoxide and hydrogen.

LiquiMax



Through the use of the Fischer-Tropsch process, the synthetic gas is converted into liquid hydrocarbon fuel that can be processed into gasoline, diesel or jet fuel.

LiquiMax Support

After being cooled and distilled in the final module, the resulting liquid fuel is complete in a usable state.

"Originally the project was a cooperative effort ... for the Army, but the project fell through," he said. "Once we had ARRA funds, we applied them to the new effort and put out a competitive statement of work for a bid. CPC won, and we had a contract signed in September 2010. Although the CPC waste-to-fuel study was our only project developed in-house that was covered by ARRA funding, there were four procurement contracts for fuels derived from algae oil that were also funded through ARRA."

Although the waste-to-liquid-fuel process is unique, the quest to explore alternative waste management options is not a new one, said Jeanne Binder, strategic energy analyst and former research and development program manager in DLA Energy.

"CPC had done previous work with the Army converting waste to synthetic gas and to energy, like electricity, but this DLA Energy project was specifically [designed] to take that technology and modify it so that we could produce a fuel we can use in the battlefield environment," she said. "To be able to go from doing a simple waste-to-energy [conversion] to making a fuel wasn't simple, but it was feasible. To do that, they built additional modules for the fuel conversion."

In developing the prototype, which can produce about 25 gallons of fuel per day, DLA Energy and CPC had to consider several factors, such as size and mobility.

"The method CPC uses is the most viable way to do it," Hicks said. "Although the process is open technology, the configuration CPC uses is proprietary, so we had to look at the overall cost of development and the type of materials we could work with, like if it could handle many types of material or only one or two. Plus the size of the module being developed: Could it be handled by base personnel or did it require technical exper-

“CPC had done previous work with the Army converting waste to synthetic gas and to energy, like electricity, but this DLA Energy project was specifically [designed] to take that technology and modify it so that we could produce a fuel we can use in the battlefield environment. ”

Jeanne Binder
Strategic Energy Analyst and
Former Research and Development Program Manager

tise to handle it?”

Housed at CPC’s Littleton, Colo., facility, the prototype consists of four modular containers. The first, the waste processing module, is known as the drier. It ensures the waste, such as wood chips, walnut shells or cardboard boxes, is dried properly, then sends it to a compressor where it’s compressed into small pellets called briquettes.

“Even though the materials [in the demo] wouldn’t be particularly what you would find overseas, the main issue is the ability to pelletize different types of waste materials into a form that can be handled by the system,” Hicks said. “You don’t want to use too much food waste, because when you have too much water involved, the oxygen in the water interferes too much during the conversion. But this basically simulates what you would be doing overseas once you would apply this system.”

After they are pelletized, the briquettes are passed to the second module, the biomass gas production module. There, at operating temperatures of 700 to 900 degrees Celsius, the briquettes are converted to a synthetic gas made up of carbon monoxide and hydrogen. In a regular waste-to-energy project, that gas would go directly into generators to produce energy. Instead, the gas goes onto the next module, called “LiquiMax.” This module uses the Fischer–Tropsch process, a set of chemical reactions, to turn the gas into

Fuel extracted from a new mobile waste-to-liquid-fuel prototype will run generators like this one at forward operation bases worldwide. The prototype is a smaller scale of other alternative fuel initiatives that use municipal solid waste generated by local and state governments. Photo by Kingsbury Browne

FORT DRUM

By Amanda Neumann

To further support the advancement of the Army's renewable energy goals, DLA Energy issued a competitive request for proposal for biomass power to be delivered to Fort Drum, N.Y., home of the 10th Mountain Division. Under a long-term power purchase agreement, the RFP included a requirement for the design, installation, test, commission, operation and maintenance of an on-site or contiguous biomass generation facility that can deliver at least 100,000 megawatt hours of electric energy annually. As an alternative to the on-site biomass power requirement, the RFP also included a request for the 10-year supply and transmission of electricity generated from other renewable energy facilities. DLA Energy is currently reviewing and evaluating proposals.

a liquid fuel.

"Basically we're heating the material without combustion in the presence of controlled oxygen under pressure," said Jose Maniwang, engineer and strategic energy program manager in DLA Energy. "The carbon and the hydrogen separate out, and you're producing two gasses: carbon monoxide, which is carbon and oxygen, and straight hydrogen gas. This mixture of gas can be used as a fuel or can be processed under the Fischer–Tropsch system to produce a liquid hydrocarbon fuel, which is what we're doing. Depending on how you mix those [gases] together, you can come up with the proper fuels you need, whether it be gasoline, diesel or jet fuel."

The last step, the LiquiMax support module, contains a compressor and liquid fuel distillation subsystem that cools the liquid fuel, making it usable.

"We're not producing a whole lot of fuel, not the large amounts to fly planes or to operate convoys of vehicles, because this is a mobile system," Hicks said. "You want it at a scale where you can get it in and out in a fairly rapid pace, so it's producing relatively small volumes. This is basically a smaller scale of other alternative fuel initiatives that use municipal solid waste generated by local and state governments. In fact, the fuel produced will mostly be used just for generator operations, but it beats trucking in the additional fuel."

During CPC's six-month demonstration phase, the module was tested for its ability to produce small amounts of fuel from three types of waste, with hopes that the fuels produced could meet the commercial specifications of the fuels they are meant to replace, Hicks said.

"The results were positive; everything passed," he said. "They were able to produce samples of commercial [aviation] fuel and commercial diesel fuel. Those samples were tested by our contractor lab in San Antonio, and we've sent the [results] to CPC for their review and input. Now we're just waiting on CPC to develop their final report."

As for now, any plans for the program to move from an R&D project into a program of record, with further production and deployment, depends on the military services, which will be able to access the report through the Defense Technical Information Center, Binder said.

"DLA doesn't have the ability to create a program of record for this equipment; the services have that ability," she said. "With a lot of our research that involves systems, we share the data from our research with the military services and then they decide whether they want to pick it up and move forward with it or not. We're a facilitator for them in a way."

A new mobile waste-to-liquid-fuel system turns unusable waste materials, such as pallets, carboard and plastic, into fuel for forward operating bases. Developed by DLA Energy and the Community Power Corporation, the system was procured using stimulus funding. Photo by Air Force Staff Sgt. Sharon Singer

With the major developments of biodiesel and ethanol in recent years, DLA Energy is no stranger to the procurement of alternative fuels, Binder said.

"DLA Energy has been procuring alternative fuels for quite a while for the military services to meet their Energy Policy Act of 2005 goals, which started the big push to buy the alternative fuels we have," she said. "But [earlier fuels] required a different type of infrastructure to handle them, and only certain engines can burn them. These next generation fuels, the advanced 'drop-in' replacement biofuels and alternative fuels, can be burned without any modifications. They're used in blends with petroleum, and the end user doesn't notice a difference. Eventually, once these fuels are certified and able to be produced in sufficient quantities, they have the potential to become competitive with petroleum."

With promising results and a need to explore alternative "greener" fuels, DLA Energy plans to support several initiatives aimed at finding the best fit for the military services, Binder said.

"A lot of different services are looking into alternative energy using waste, algae, alcohol to jet, etc.," she said. "There are a lot of different ways, especially depending on the type and nature of the feedstock, to do that. Although biomass fuels are not new, they've been evolving. I think you'll see these advanced alternative fuels become increasingly available over the next five, 10, 20 years. Most, but not all, emit less greenhouse gasses, so they're environmentally friendlier. They'll never 100 percent replace petroleum, but some of their sources, like crops, are more sustainable, renewable and well managed. For me, working with R&D projects, it's an eye opener. It's amazing technology."

Wood pellets
a new energy commodity

By Irene Smith

In a departure from traditional energy procurement, Defense Logistics Agency Energy Installation Energy broke new ground last year when employees awarded the first ever contract for wood pellets to the Coast Guard.

The DLA Energy Installation Energy team awarded a one-year contract for 1,000 tons of premium wood pellets to supply the Coast Guard at Air Station Sitka, Alaska, to be used in base facility heating systems in July 2012.

Wood pellet fuel is a renewable, clean-burning biomass product made of renewable substances – generally recycled wood waste. The fuel is used in a variety of settings and applications, such as home heating appliances and large scale boilers in commercial operations.

"This is the first contract

for biomass fuel that DLA has ever awarded," said Charlie Tiggs, DLA Energy Installation Energy Coal and Service Contracts division chief. "Initially, we did a lot of research into biomass, which is a combination of scrubs, leaves and twigs. We had to understand the industry, sources and specifications of wood pellets in regards to current boiler systems and current retooling for equipment changes. Once we understood the overall program, we then had to develop a suitable acquisition strategy."

The switch from heating oil to wood pellets is the result of cost saving measures instituted by the Coast Guard.

Located on a remote island accessible only by boat or plane, Air Station Sitka is surrounded by mountainous terrain, unpredictable severe weather and vast distances between fuel caches and landing sites. The Coast Guard civil engineering unit in Juneau, Alaska, discovered through research that wood pellets offer a substantial cost savings over oil heat.

"While the effort is relatively small scale for DLA Energy, the [Coast Guard] projects a 28 percent savings or $128 thousand a year based on our negotiated contract rate," said DLA Energy Installation Energy Director Pam Griffith. "[DLA Energy]Installation Energy exercised the option year [Aug. 21] under its small business contract with Alaska Pellet Supply for [Coast Guard] Sitka's next wood pellet shipment scheduled for delivery in November 2013."

The pellets are sourced from British Columbia, Canada, where they are packaged and loaded into water tight shipping containers, delivered by barge to coastal Alaska communities, then loaded into delivery trucks for final destination to the customer's storage silos.

Plans are underway for the Coast Guard to install similar installations in Ketchikan and Kodiak, Alaska.

The biomass procurement with the Coast Guard has been very successful and has led to other projects, Tiggs said.

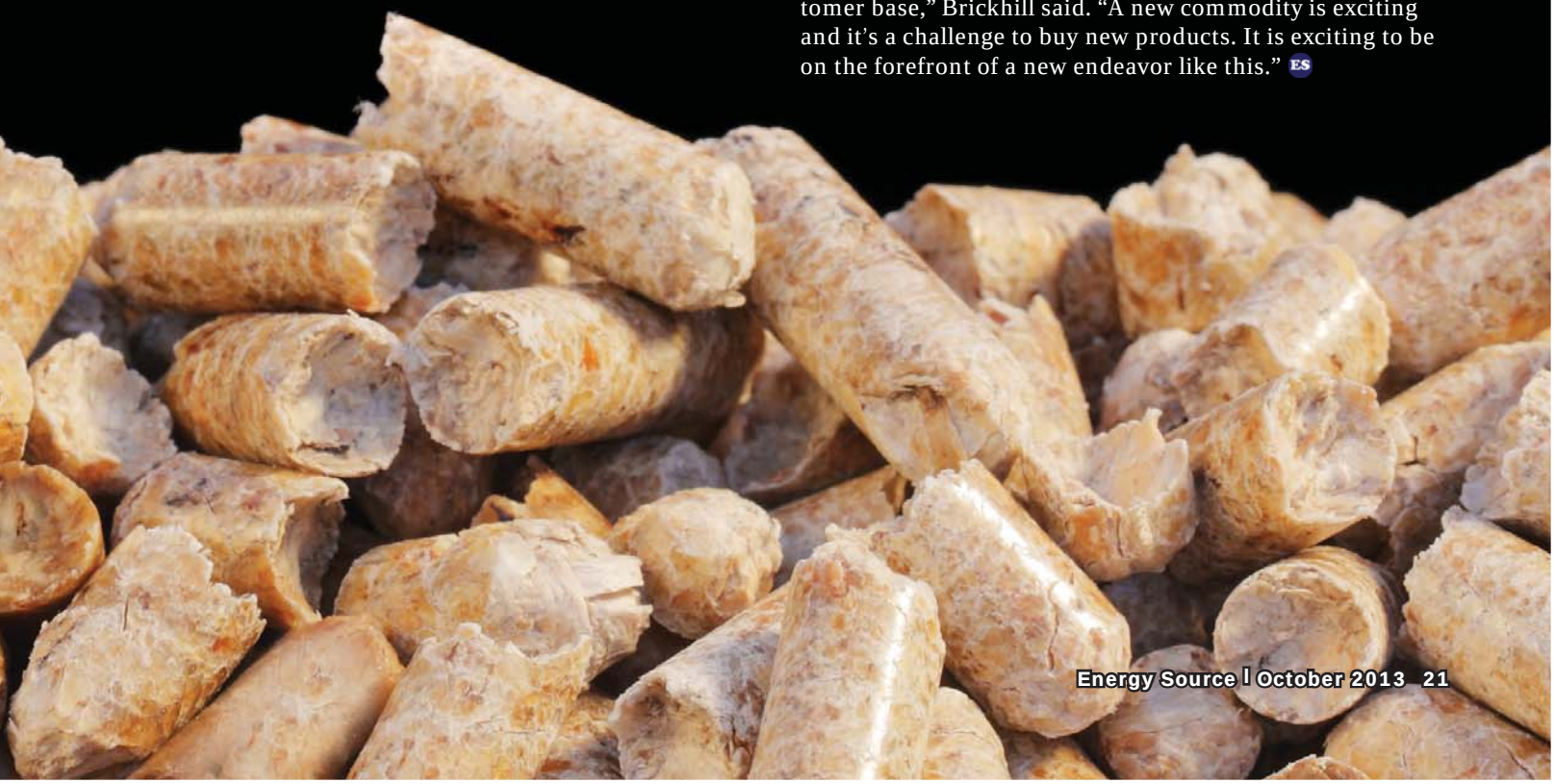
"As a result of our success with the Coast Guard, a second pilot program has been initiated with the General Services Administration who is looking at using biomass to heat the federal service building and courthouse in Ketchum, Alaska," Tiggs said. "We established the requirements and have made the contract award for GSA."

Wood pellets represent a unique market for DLA Energy, said Joan Brickhill, DLA Energy Installation Energy team lead and acquisition specialist.

"When we first started procuring wood pellets, the cost was $338 per delivered ton," Brickhill said. "We researched the requirements in concert with the DLA Energy quality assurance representative and went out to find the vendors and sources to satisfy the Coast Guard's requirements. We were able to identify a premium product that was a higher quality than a traditional biomass product and we were also able to utilize a small business vendor to procure the pellets. A ton of wood pellets now costs about $200 per ton."

Wood pellets are produced by taking wood waste byproducts and refining them into pencil-size pellets that are uniform in size, shape, moisture, density and energy content.

"I am enthusiastic about expanding thr DLA Energy customer base," Brickhill said. "A new commodity is exciting and it's a challenge to buy new products. It is exciting to be on the forefront of a new endeavor like this." ES



Reinvigorated Petro

By Susan Lowe

Defense Logistics Agency Energy personnel and other members of the joint bulk petroleum community who are interested in enhancing their joint petroleum training may now participate in a newly reinvigorated training initiative.

"The Bulk Petroleum Component Steering Group comprised of senior leaders within DLA Energy, the Joint Staff, the military services, and the combatant commands, sanctioned a new joint training initiative," said Doug Thomas, program manager for DLA Energy's Executive Agent office. "The CSG initiative is designed to ensure the continuation of the highly-skilled petroleum workforce in the future."

"Most personnel coming into the petroleum community come through the broader logistics career fields and are trained in the petroleum career field," Thomas said. "Training opportunities are available for enlisted personnel and officers, federal government employees and contract support personnel."

Training opportunities are not limited to petroleum officers, he added.

"Anyone interested in broadening their professional skill sets is encouraged to take advantage of every training opportunity available, and that includes petroleum officer training," Thomas said.

The Joint Staff Director for Logistics Air Force Lt. Gen. Brooks Bash highlighted the importance of maintaining a highly competent officer cadre in the Defense Department petroleum and energy positions in an April 24, 2012, memo to the combatant commanders, the military services and DLA Energy.

"As senior logistics leaders, we must all work to develop joint logisticians to meet the Joint Force petroleum capability our nation will need in 2020," Bash wrote. "Recent experiences in Iraq and Afghanistan emphasize the need for skilled logisticians to manage the $20 billion DoD annual petroleum business outlined in the 2012 Joint Petroleum Strategic Plan."

Bash recommended fuels officers take the DLA Energy Overview course, the Joint Petroleum Training course and attend the Joint Petroleum Seminar.

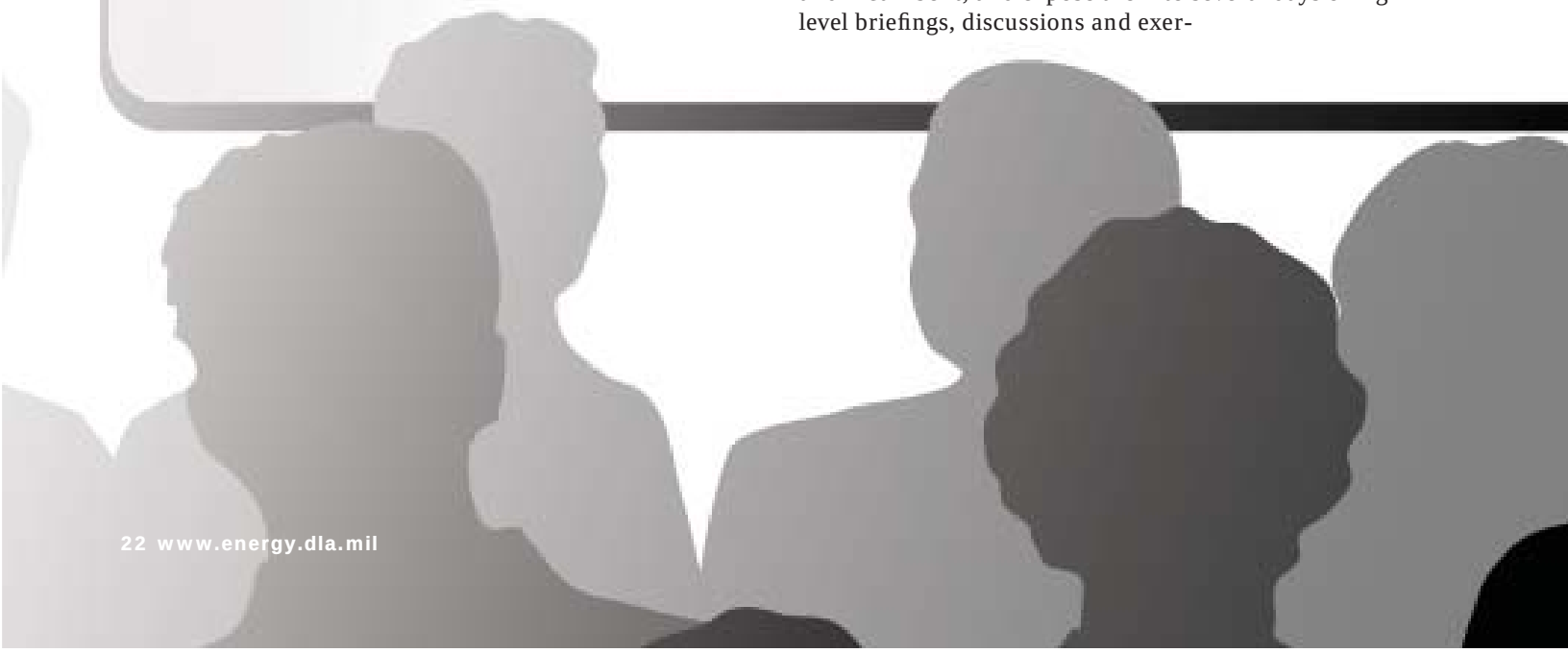
"Professional military education commensurate to his/her rank and Joint PME Phase II should be completed prior to assignment as a joint petroleum office chief or DLA Energy regional command operations officer," Bash added.

The DLA Energy Overview course is held regularly at DLA Energy headquarters located at Fort Belvoir, Va.

The Joint Petroleum Training Course is a free online petroleum training course developed in modules to familiarize individuals with joint petroleum planning, controlling, executing and operating. The course can be found at http://jko.jten.mil.

The Joint Petroleum Seminar is held once a year at DLA Energy headquarters.

The purpose of the petroleum seminar is to gather joint petroleum officers throughout the DoD, both incoming and incumbent, and expose them to several days of high level briefings, discussions and exer-



oleum Training

cises with the intent of further expanding their professional petroleum knowledge, Thomas said.

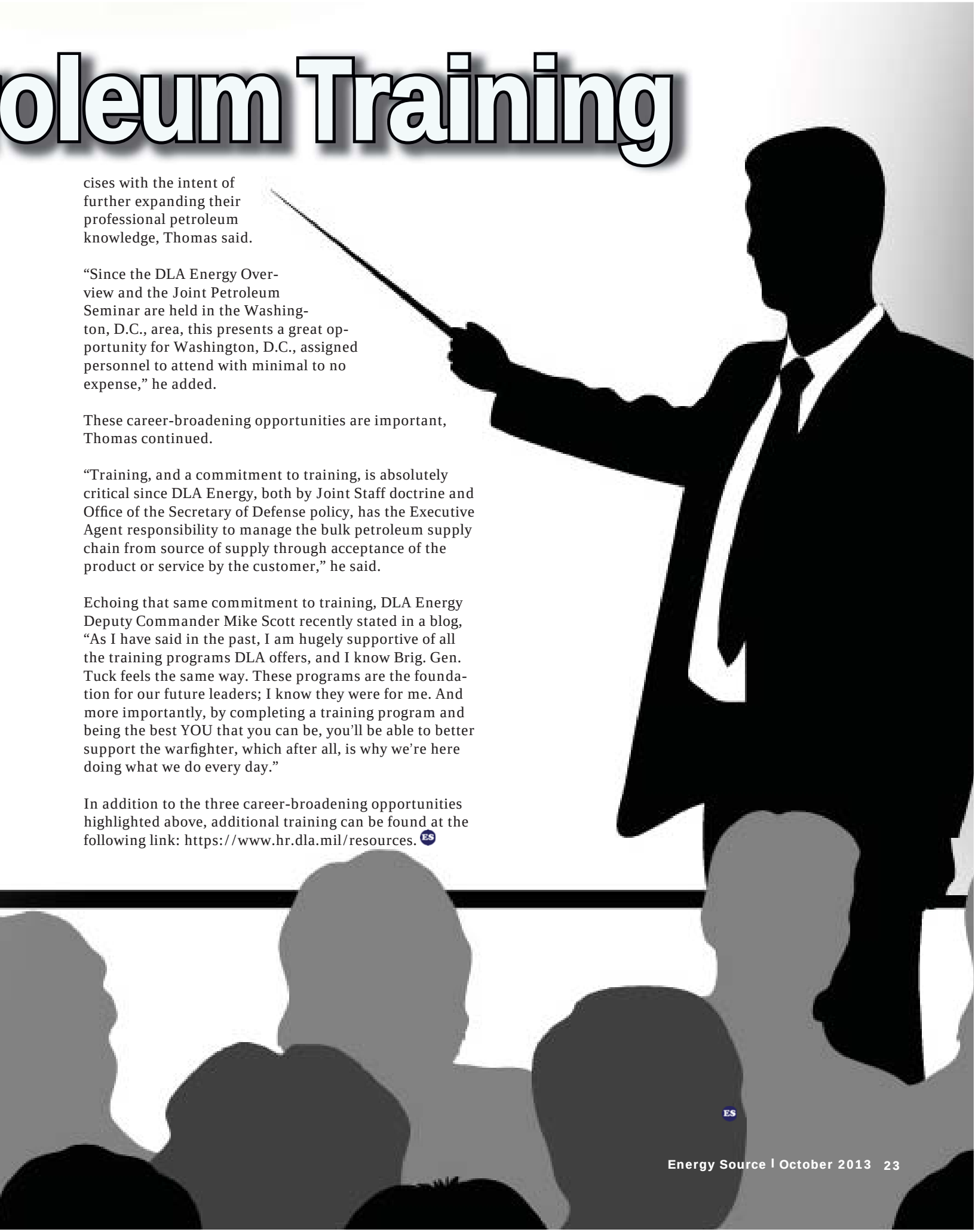
"Since the DLA Energy Overview and the Joint Petroleum Seminar are held in the Washington, D.C., area, this presents a great opportunity for Washington, D.C., assigned personnel to attend with minimal to no expense," he added.

These career-broadening opportunities are important, Thomas continued.

"Training, and a commitment to training, is absolutely critical since DLA Energy, both by Joint Staff doctrine and Office of the Secretary of Defense policy, has the Executive Agent responsibility to manage the bulk petroleum supply chain from source of supply through acceptance of the product or service by the customer," he said.

Echoing that same commitment to training, DLA Energy Deputy Commander Mike Scott recently stated in a blog, "As I have said in the past, I am hugely supportive of all the training programs DLA offers, and I know Brig. Gen. Tuck feels the same way. These programs are the foundation for our future leaders; I know they were for me. And more importantly, by completing a training program and being the best YOU that you can be, you'll be able to better support the warfighter, which after all, is why we're here doing what we do every day."

In addition to the three career-broadening opportunities highlighted above, additional training can be found at the following link: https://www.hr.dla.mil/resources. ES



Petroleum Re

By Susan Lowe

The Defense Logistics Agency Energy provided the joint petroleum community a new tool in June that makes use of lessons learned.

Using the Department of Defense Joint Lessons Learned Information System, which is the automated solution implementing the intentions of the chairman of the Joint Chiefs of Staff, DLA Energy designed and implemented the Class IIIB Joint Lessons Community of Practice.

The new repository is for community members to post and review petroleum, oil and lubricants lessons learned from a joint petroleum perspective.

There are four primary categories for each of the military services, the joint community and DLA Energy. The four categories include contingencies, humanitarian assistance/disaster relief, after action reports and major exercises.

"The repository is a very user-friendly platform that gives us the ability to share knowledge gained from individual experiences anywhere across the globe so the entire [petroleum] community may benefit from all joint petroleum lessons learned," said Doug Thomas, Executive Agent program manager.

The repository resides on the DLA Office of Operations Research and Resource Analysis JLLIS site.

"Military, government and contractor personnel can log on to [the website]. New users will have to create an account in order to access COP #859, which is the joint petroleum COP," Thomas said.

"Basically, anyone in the DoD who wants to share petroleum or energy-related lessons learned with the rest of the joint petroleum community is authorized to use the repository," Thomas added. "It's very easy to use."

While the JLLIS repository has been around for several years, the COP #859 is relatively new.

The JLLIS started back in the late 1980s and early 90s and was previously called JULLS; joint uniform lessons learned system. At that time, it was a classified application run by the Joint Staff for all lessons learned including operations, logistics, training and world events.

"The petroleum repository is a refined system and rather useful tool," said Tom Ashman, contractor support for the Executive Agent office.

"It's important to make sure only petroleum-related lessons are posted in it so assessments can be made easily," Ashman said. "And Doug [Thomas] does exactly that; he scrubs the database and ensures it stays relevant to the petroleum community."

"We have always known we should be able to learn from past wars, disasters, exercises and experiences," Ashman added. "That's the beauty of this repository; it acts as a central gathering place for all that information."

The entire JLLIS database is searchable, but the Class IIIB Joint Lessons COP is only searchable on the non-classified side at this time.

"It's possible to find any energy, petroleum or Class III posting and pull it into the petroleum COP," Ashman said. "It's robust and the petroleum community will find it most useful if they are proactive and consistently add new information."

"We are just beginning to get the word out to the joint petroleum community," Thomas said.

The original idea for this COP stemmed from a planning shortfall identified by DLA Energy's Director of Customer Operations Air Force Col. Steve Kephart.

"Col. Kephart told us he wanted to find a better way to document, store and pull-up petroleum lessons learned," said Guno Kletter, Executive Agent program manager. "That's when Doug [Thomas] started working on his idea for a central repository; a place the petroleum community can really use to share ideas."

Kletter's and Thomas' job includes finding ways to improve efficiency to the Class IIIB supply chain and improve support to the warfighter.

DoD policy states that the DoD Executive Agent for bulk petroleum is responsible for supply chain management of the commodity.

"Our office is responsible for all bulk petroleum supply

Repository

chain management from source of supply to the point of customer acceptance, with an emphasis on improving efficiency," Kletter said. "So the repository really helps us do our job."

Thomas and Kletter said the repository has already proven to be very valuable.

"The added value of this COP is it provides an easy to use 'one-stop shopping' repository for all joint petroleum lessons learned," Thomas said. "If I want to know how the Army, for example, handled a particular exercise or situation, I can go to the repository for answers."

One example of how the repository has helped involves a change to DLA Energy I-8, which is a temporary instruction that outlines how to process cash sales to Disaster Relief Agencies.

"While the repository is a work in progress, this change to our procedure came about as a result of lessons learned gathered from our Haiti support and Operation Tomodachi," Kletter said.

Currently, the joint petroleum community is using the repository for three ongoing efforts.

"The community is focusing on preparation for the next hurricane season; capturing experiences related to a collapsible fuel tank study and documenting lessons learned for a lab consolidation study," Thomas said.

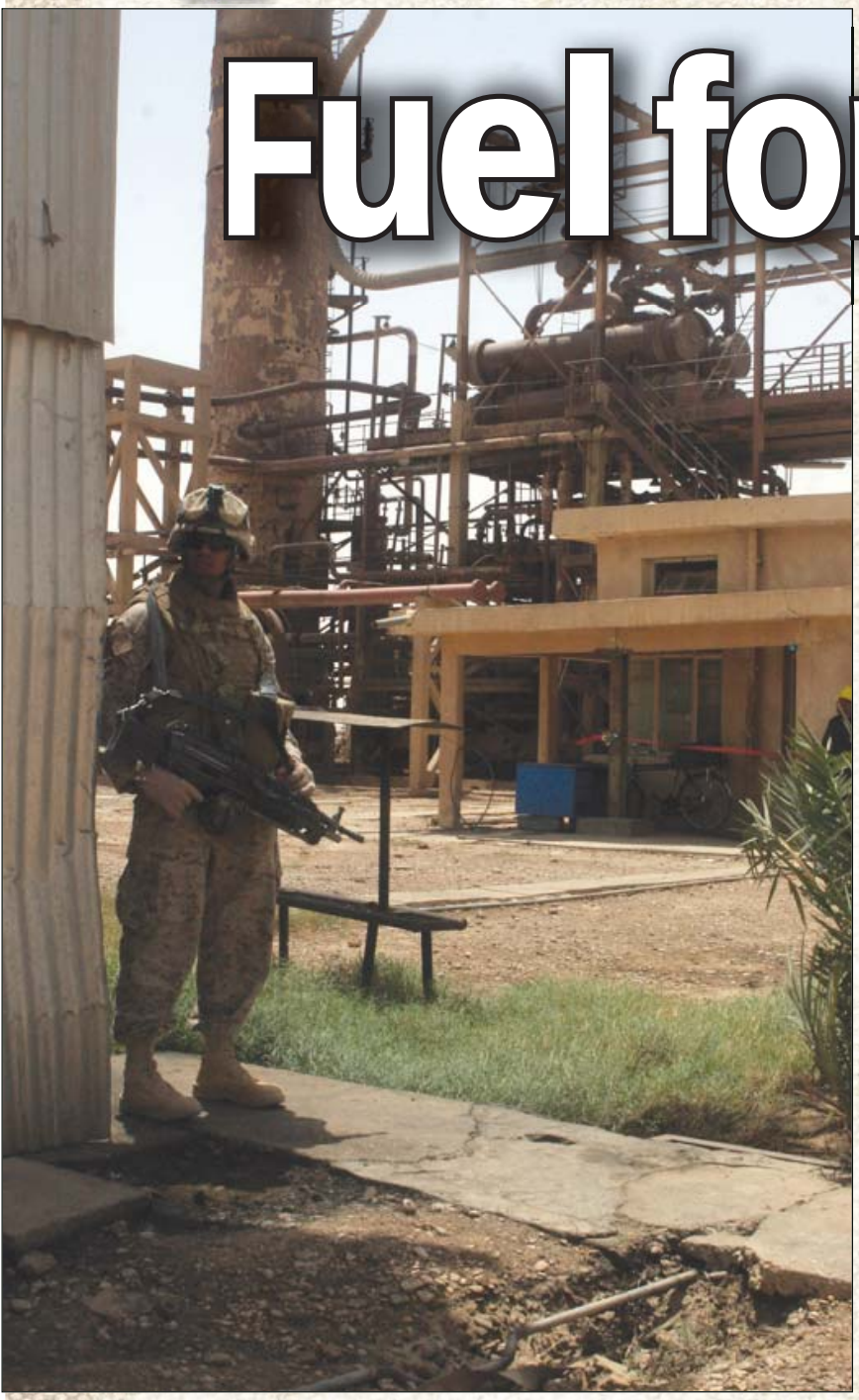
Participation in the program is voluntary, but Thomas said his team envisions all members of the joint petroleum community will want to "get on board" and participate fully in the effort.

"The ultimate goal is to improve communication and information exchange across DoD when developing courses of action for contingency support," Thomas said.

"We, as a joint petroleum community, do not want to be doomed to repeat the mistakes of our past," Thomas said. "If we all document and post how we handled petroleum related events, we can all learn from each other."

The main focus now is to continuously make people aware of its existence and ensure that the lessons learned are captured, he added. ES

Fuel for Iraqis



A Marine stands guard at the K3 Oil Refinery near Haditha, Iraq, July 18, 2008. The refinery, capable of processing 16,000 barrels of crude oil per day, had been non-operational for three years until coalition forces and Iraqi government leaders stepped in to repair it. Photo by Marine Cpl. Paul Torres

By Amanda Neumann, DLA Public Affairs

Navy Lt. Cmdr. Stephen Grace arrived at Baghdad International Airport Jan. 13, 2004, with the start of war in Iraq less than a year in the past. Sleeping in a truck overnight, he waited for a morning convoy to Baghdad's Green Zone, the center of coalition military and civilian efforts in the country. Grace was one of the first to deploy to Iraq from DLA Energy, which was then known as the Defense Energy Support Center.

Working alongside Task Force Restore Iraqi Oil, a U.S. Army Corps of Engineers effort, Grace and his five DLA Energy teammates were there to help support the Coalition Provisional Authority with its humanitarian mission to restore Iraqi oil.

"We went over there to assume a mission that had been done by a contractor to bring in refined product for the people of Iraq so they could get their livelihood back and get into some sort of routine while they were trying to get their production up and running," he said. "So we were bringing in [a combination of] gasoline, diesel, [propane] for cooking, and kerosene to help them get their infrastructure back up."

Shortly after arriving, Grace was named Combined Joint Task Force 7's humanitarian assistance fuels officer.

"Pretty much seven days a week, [I'd update] where fuel was coming and where it was going and what the Iraqis were doing in addition to what we were doing," he said. "We were importing on average 4-6 million gallons of fuel a day for the people of Iraq. We were tracking anywhere between 5,000 and 7,000 trucks on the road at any given time between trucks that were coming in full, already downloading and those that were retrograding out. It was a range based upon the product and availability."

Working with the task force on refineries and oil fields, Grace and his staff had daily meetings with Iraqi government fuel leaders around the country.

"Five or six days a week, we were on convoys going to the Iraqi ministries [outside the perimeter]," he said. "We had a routine. Once a week we'd go to the Iraqi Ministry of Oil, and the other days of the week we'd go to the Iraqi Petroleum Pipeline Company, the Iraqi Petroleum Distribution Company and the Iraqi supply. Basically they had directorates that did trucks, pipelines and the refineries."

Although he knew Iraq's fuel situation well from extensive studying, Grace, currently director of plans and operations for DLA Energy, was still surprised at what he saw on the ground.

"Their infrastructure was in very poor condition, very bad shape," he said. "And you would think that, and you understand it conceptually, but you don't have a reference point [until you see it]. We went to a storage depot on their pipeline area and walked around. It was an understatement to say it was in poor condition or to say it was leaking. I have pictures where I'm standing beside a big hole dug in the middle of this field and it's full. In the U.S., you would think that was probably groundwater seeping up. It's not; it's fuel that has penetrated the ground so much that it literally pools in the field. A lot of times, words did not do justice to the challenges they have over there."

With daily threats to their security, leaving the secure and safe Green Zone for meetings was considered deadly, Grace said.

"You had to understand that when you went to a meeting, you were going out into the badlands," he said. "You drive everywhere fast, because this was back in the days before we had up-armored Humvees. You'd alternate under tunnels or overpasses because there were instances where they were dropping mortar rounds off the overpass. Or you'd hear gunfire, and you weren't exactly sure if they were aiming at you or not."

During this time, Iraq's infrastructure was taking a lot of hits. With insurgency on the rise, pipelines were often blown up, disabling the Iraqi civilian population even more, Grace said.

"The insurgents were blowing up pipelines to stop us, but

Hundreds of fuel trucks wait to cross the border into Iraq at Habur Gate, Turkey in 2004. The Defense Energy Support Center, now known as DLA Energy, frequently dealt with severe import issues while assisting with the U.S. military's mission to restore Iraqi oil. Photo by Bo Luzey

We Are DLA

"We ended up doing Task Force [Restore Iraqi Oil] for nine months. We started the contracts, got fuel flowing and we started reporting it, then we transitioned over to the second [DLA Energy] team … We secured over a billion dollars' worth of funding, but we did it a lot cheaper and we returned somewhere around $450 million … It was a tremendous success."

Stephen Grace
DLA Energy Operations Center and Control Center Division Chief

it didn't impact us; it only impacted their own people," he said. "In the early days, we were not getting any fuel from the Iraqi pipelines, and we were getting no product from the Iraqi refineries."

With a mission to get in and out of unsafe areas quickly, Grace and the team soon realized how much of a challenge that was.

"You had to be aware how you dealt with [Iraqis] because this is their country," he said. "There was a process. No matter how much of a hurry you were in, you were going to have to have tea first, then pleasantries and discussions, and maybe, if the discussions were impassioned, then you'd have tea before you left. You had a lot of people that had axes to grind because these were people that were not some of the favored ones during the Saddam [Hussein] regime. Once you got back, you'd update your reports on what they told you would be moved on the pipeline or trucks."

With days starting at 6 a.m. and routinely ending at 10 p.m., the team faced several obstacles, most notably cultural mindsets.

"You had to work with the Iraqis to change their thought process on how they did things," he said. "It was very unilateral. They had a process, but there was rigidity to it where it was cumbersome. The other problem was they were so used to being a state oil marketing organization whose whole purpose in life used to be to export crude oil out of the country. But then they were tasked with how to import refined products, so we had to take on board their training and education process and provide them with insight on how we do business, acquisition and inventory management."

A few months after Grace's arrival, the first DLA support team stood up at Camp Victory, next to Baghdad's airport. The specialized team, composed of staff from all across DLA, provides logistical support to conflicts, natural disasters, emergencies, mobilizations and other contingency operations around the world.

After four months, Grace and his team transitioned out and a second round of DLA Energy employees came to Iraq, helping to continue the task force mission.

"We ended up doing Task Force [Restore Iraqi Oil] for nine months," he said. "In the early stages, we were to establish contracts and work with the Iraqis on the acquisition process. We started the contracts, got fuel flowing and we started reporting it, then we transitioned over to the second [DLA Energy] team. Our two follow-on teams, who each did three months, continued with the operational side of it to continue with mission execution. We had to get funding for DLA Energy to execute the mission. We secured over a billion dollars' worth of funding, but we did it a lot cheaper and we returned somewhere around $450 million. We didn't do it for as long as we originally thought, mainly because it was a tremendous success."

Bo Luzey, former deputy director of DLA Energy Americas at Houston, was part of the third DLA Energy team to assist in the transition over to the Iraqis during Task Force RIO. In late 2004, Luzey was an Air Force operations specialist assigned to DLA.

The first two teams specifically targeted civilian infrastructure, refinery production and pipelines in the country. Then-deputy commander of Defense Energy Support Center Iraq, Luzey and his team were tasked specifically with getting these areas back up and running.

"Those are key notes for society," he said. "Do you have your infrastructure to be able to produce electricity or have refined products for the vehicles that are there? We didn't want to be in the business of supporting the population – that's Iraq's mission and that's on them to do that – but we had to stand them up."

When it came to supporting key infrastructure, the lack of technology and large size of the country made things difficult, Luzey said.

"If you haven't been out of the country, you don't know how big this place is," he said. "Baghdad itself is like looking at the city of Houston; it's that size. Of course, it doesn't have the technological advances that we do. But DLA was there because we had the expertise in government contracting and setting up the logistics arm."

With DLA Energy's expertise with import issues, Luzey and his team often had to troubleshoot issues daily.

"We were also tracking all of the import routes that we were bringing in, thousands of trucks from Turkey, Kuwait and Jordan," he said. "There were huge import issues. I went out and visited a place in Turkey called Habur Gate. There, you had 2 miles' worth of trucks lined up waiting to get into and across the border, one right after the other. And these guys are living out there in all kinds of conditions waiting to be let into the country. DLA Energy Europe and Africa played a critical role because of some of the relationships they had with Turkey already. But there were all types of issues like that. And those issues continued as we stopped this mission and went to straight supporting the troops."

Once Luzey and his team were certain the Iraqis could meet certain targets, their mission was finished. By the end, the three teams had imported more than $588 million in refined fuel imports and enabled the flow of more than 401 million gallons into Iraq. By 2005, with troops entering the country in rapid succession, fuel concerns shifted to the troops' needs.

An Iraqi welder works in the desert heat to repair a severed oil pipeline in northern Iraq July 10, 2007. During the mission to restore Iraq's oil infrastructure, insurgency was on the rise and pipelines were often blown up in an attempt to delay the U.S. military's progress. Photo by Army Maj. Juanita Chang

"In 2004, we had certain targets," Luzey said. "We were trying to ensure that the Iraqis took responsibility. We had to ensure they had a certain level of a number of days of supply on hand to support the nation. Once we got those numbers, which showed that they could sustain them for a period of time, then our mission was over. Once that happened, the DSTs started bringing in more gas and diesel to support the actual troops that were there."

From fiscal 2005 to fiscal 2013, DLA Energy provided 3.2 billion gallons

An Iraqi soldier runs to check an oil tanker's identification card before letting him exit Iraq's Bayji Oil Refinery March 9, 2007. The Defense Energy Support Center, now known as DLA Energy, was importing between 4-6 million gallons of fuel daily, and were tracking anywhere between 5,000 and 7,000 trucks, during the 2004 mission to restore Iraq's oil infrastructure. Photo by Army Staff Sgt. Joshua Ford

of fuel to Iraq totaling $8.2 billion in net fuel sales, the majority of which, 2.5 billion gallons, was jet fuel. In 2006, convoys delivered more than 13 million gallons of fuel monthly to U.S. and coalition forces in western Iraq. Also that same year, an initiative to bring unleaded fuel into Iraq via Jordan reduced the number of convoys that were required to travel from southern Iraq into the more dangerous Al Anbar province in the west.

In 2010, once Iraq was no longer a combat military operation, the transition from a Defense Department-led mission to a State Department mission began.

"Because the scope was so different, they were looking for help for that transition," Grace said. "We already had access to the supply chains. Combat operations had stopped. ... It would be the government of Iraq working as a normal partner with other countries that have embassies. It was another step toward some transition to normalcy. We started having meetings to discuss the transition in early February 2010, and we started assuming some of the support for their sites in the October time frame."

In total, more than 35 DLA Energy employees deployed to Iraq over a nine-year period. Bruce Jones, logistics management specialist in DLA Energy, was the last of the DST civilians to deploy. Arriving in Iraq in 2012 as a fuel liaison officer, Jones was sent to negotiate international fuel agreements.

"Our mission was to provide the DOS with a supply chain management skill set to manage their bulk resupply to the embassy and consulates within Iraq," he said.

Jones, who retired from the Air Force, said DLA support teams were essential to DLA's successful support during OIF.

"There were a number of issues we worked that had nothing to do with supply-chain management, from developing requirements for the transition to developing requirements for [Foreign Military Sales] case support," he said. "That's why I think the DSTs are a great asset for DLA to allow employees who have the background and expertise to deploy to lend their talents to that mission. We have the best training, the best equipment, and we have the best people. We may not always agree on a process or a way ahead, but at the end of the day, we get the job done."

Eyes in the Sky

In addition to fuel for the troops, bulk helium was needed for reconnaissance missions during the war.

Aerostat blimps used by the U.S. military to monitor and provide surveillance for critical areas relied on helium supplied from DLA Energy's Aerospace Energy Office. In 2006, DLA Energy established a defense fuel support point in Iraq for the distribution of bulk helium, reducing product delivery from two to three weeks down to two to three hours.

"That's a whole management process, separate from fuels, that is related to [Operation Iraqi Freedom]," Luzey said. "The helium was procured out of DLA Energy's Aerospace Energy office. They worked relentlessly in bringing those aerostats and the helium for those aerostats, plus the helium containers and shipping containers, to Iraq."

One Face

The face of Defense Logistics Agency Energy...

Idella Fletcher
DLA Energy Visual Information Specialist
Fort Belvoir, Va.

Job: My job to me isn't a "job" at all. It consists of getting to be creative. The designing of visual items like posters, marketing brochures, promotional items, the lay-out of the Energy Source magazine and other magazine type items isn't like "work" to me, but challenging and fun.

Energy experience: The DLA Energy experience for me started when we were the Defense Fuel Supply Center and from day one the people made the work place feel like family. A place where everyone made a difference in supporting our warfighters and country. No matter what job they were there to do, it mattered. Although our name and location has changed since then, the "every job is important" has not. I started my civil service career with DLA Energy and I never wanted to go anywhere else. Why would I? The people made it the best place ever. I want to thank all of you for making that experience one I will cherish forever.

Challenges and rewards of the job: I would have to say one of the most challenging parts of my job was working on our Worldwide Energy Conferences. It was hard work, but it was most rewarding. When people would say that the conference was a success and they truly got something from it, you knew your hard work paid off. Well worth it!

After 26 years at DLA, your fondest memory: There are so many. Like I said before it's the people who make the difference. When I think of the time here I think of them. The picnics, the holiday parties and the conferences. I have made some wonderful and dear friends and they will always be one of the many fond memories I will carry with me.

Future plans after retirment: I'd like to say "nothing," but that's very boring and I don't consider myself a boring person. My husband wants to pack a bag and go anywhere after I retire. Why? Because we can. I love it. We will continue going on cruises. My oldest son lives in Missouri and I have already warned him that we just may drop in on him and his family at any given time. We have nine grandkids and I'll have more time to spend with them. We want to eventually move to the San Antonio area, if God is willing and the creek don't rise, so they say.

The Employee Assistance Program can help DLA Employees cope with the various work or personal situations that arise.

Employee Assistance Program

Defense Logistics Agency Energy

EAP

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