# Defense Logistics Agency Energy Spring 2018 **Source Control Science**

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# **BOOSTING THE FUTURE**

Aerospace Energy supports next level space launch

# ENERGY RESILIENCY

Vandenberg Air Force Base gets environmentally-friendly upgrades

# FUEL TANKERING

Maximizing fuel efficiency through cost avoidance

# From the Commander Brig. Gen. Martin Chapin, USAF Defense Logistics Agency Energy

#### Energy Team,

For the past two years, I have had the honor to serve as your commander. You have opened my eyes to all the incredible things DLA Energy does to support our nation. Around the globe, you provide extensive energy expertise in the petroleum, aerospace, renewable energy, electricity and natural gas industries.

This Energy Source issue focuses on the ways DLA Energy supports all the lines of effort in the DLA Strategic Plan. DLA Energy Aerospace Energy's cutting edge product line of missile fuels, liquid propellants and other bulk industrial chemicals and gases is the provider of choice for the Department of Defense and NASA, as well as private space launch companies like United Launch Alliance.

Our dedication to effective supply chain management and improving efficiency is captured in the article, Fuel Tankering, which tells the story of an interagency collaboration to develop solutions to maximize fuel efficiency around the world.

The mission of this agency is and always will be about supporting the warfighter. While our mission gives us a name, it is you – the people of DLA Energy – who bring the mission to life, give it meaning and shape its future. Speaking of people, I encourage you to read about Bulk Petroleum Products Division Chief Chris Boeding's experience while shadowing DLA Energy Deputy Commander Guy Beougher.



As DLA's Strategic Plan suggests, you are at the center of our ability to deliver results. Without you, DLA Energy could not tackle all the challenges, big and small, in the increasing complex operating environment.

To that extent, I give my gratitude. I wish I could personally walk up to each and every one of you, look you in the eye, and say thank you. Thank you for taking pride in what you do every day.

While I will always look back fondly on my time here, it will be the great DLA Energy men and women I will remember the most. I will take all of your inspiration with me as I continue to serve our country.

THANK YOU!

# **Energy Source**

Commander Air Force Brig. Gen. Martin Chapin **Deputy Commander** Guy C. Beougher **Chief of Staff** Army Col. Doug Henry **Public Affairs Officer** Irene Smith Editor Connie Braesch Writing Staff **Connie Braesch** Elizabeth Stoeckmann **Kimberly Fritz** Layout/Design Connie Braesch

www.dla.mil/energy

Editor's Note: Air Force Brig. Gen. Martin Chapin relinquished command to the DLA Energy peputy Commander Guy Beougher May 1 until the new DLA Energy commander, Air Force. Brig. Gen. Albert G Miller, arrives.

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> Address correspondence to: DLA Energy 8725 John J. Kingman Rd. Suite 4950 Fort Belvoir, VA 22060-6222 Commercial: 571-767-4108 Address email to: EnergySourceMagazine@dla.mil

Front Cover: A United Launch Alliance V rocket stands ready to launch the Space Based Infrared Systems Geostationary-1 satellite for U.S. Air Force from Cape Canaveral Air Force Station, Florida. Photo credit to United Launch Alliance. Back Cover: DLA Energy Office of Small Business Programs. Graphic by Angela Shannon.



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# **OPENING DOORS**

Of the 160 million gallons of fuel Defense Logistics Agency Energy sold to over 800 federal agencies in fiscal year 2017, 58 million gallons was sold to the U.S. Coast Guard. U.S. Navy photo by Petty Officer 3rd Class Dana Legg.

# Fueling relationships across the federal government

By DLA Energy Public Affairs

W hile the warfighter is the priority, non-Department of Defense partners can capitalize on Defense Logistics Agency Energy's comprehensive supply chain network and economies of scale. Offering its collective expertise to identify energy solutions, DLA Energy has an increasing number of non-DoD customers on its list.

"We want to partner with federal agencies to support their fuel needs," said DLA Energy Customer Relationship Management Division Chief Marc McConahy. "Because of our established processes and

systems, we are an efficient and effective source."

In fiscal year 2017, DLA Energy sold approximately 160 million gallons of fuel to more than 800 federal agencies worldwide. Customers included the U.S. Coast Guard, Veterans Administration, Department of State, General Services Administration, National Park Service, Department of Agriculture, Department of Transportation and others.

A new, unique partnership became effective in fiscal year 2018 between DLA Energy and the NASA Wallops Island Flight Facility.

By examining DLA's Enterprise Business System reports, the DLA Energy Customer Relationship Management team identified jet fuel use at NASA's Wallops Flight Facility increased from 50,000 gallons per year in 2012 to more than 500,000 gallons per year in 2016.

"In our outreach with NASA, we discovered that fuel consumption at Wallops had gone up 88 percent due to increased DoD use of the NASA facility," McConahy said.

The awareness of this stark increase prompted NASA to review their current vendor contract agreement and begin exploring new strategic alliances with DLA Energy. A collaborative team of NASA and DLA Energy members met to jointly examine the facility's jet fuel supply chains, operational requirements

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and costs. The team's objective was to identify the most costeffective supply solution that would meet both NASA and DoD mission requirements.

"We jointly concluded that purchasing fuel from a DLA Energy Defense Fuel Supply Point was the most cost-effective solution for both NASA and DoD," McConahy said. "We will deliver 480,000 gallons of Jet A, saving half a million dollars in fiscal year 2018. This is a great example of how we can benefit the customer with proven processes to effectively provide for their needs and save money while doing it."

DLA Energy fuel agreements not only save the federal government money but also come in handy during a contingency.

"During the 2017 hurricane season, some of our customers like the Transportation Security Administration and U.S. Customs and Border Protection were having difficulty getting fuel for storm response and recovery operations," McConahy said. "Because we had an existing agreement with them, DLA Energy was able to supply them the fuel they needed."

#### The Process

The first step in partnering with a non-DoD customer is to ensure DLA Energy can help that agency fulfill its mission more efficiently and effectively.

DLA Energy managers meet with or contact counterparts from prospective customers and explain the services and expertise DLA Energy provides.

"It requires close coordination with federal agencies to help them determine their requirements and ensure consistency," said DLA Energy Customer Account Specialist Phillip Adams. "In some cases, the agency might not have visibility on fuel they are receiving. It's our job to help them."

Next, DLA Energy creates a fuel purchase agreement with the potential customer.

"Selling fuel to non-DoD agencies requires systems and procedures that are consistent, transparent and auditable, and it is up to the CRM Division to establish and monitor these agreements," McConahy said.

As of April 2018, DLA Energy had completed 77 fuel purchase agreements supporting other U.S. government agencies.



Once the agreement is in place, the DLA Energy Mobility Fuels Customer Support Division takes over to ensure a separation of duties.

"We validate the customer's requirements to ensure the resulting contract fully supports their needs throughout the process all the way to completion," said MFCS Division Chief Tom Redford. "We also provide training to customers in the use of DLA's auditable systems to order and provide government acceptance of fuel received."

New customers learn how to use the Enterprise External Business Portal and the Invoice, Receipt, Acceptance, and Property Transfer systems to place orders, accept fuel and make payments.

The automated system allows both parties to be in sync, Redford emphasized.

McConahy explained that the transition from mailed invoices and agency paper check payments to electronic billing using the Intergovernmental Payment and Collection System improves the speed and accuracy of payments.

"We know we've been fully successful when a federal agency can go into our systems and order fuel like they were ordering it online," he said.

While fuel is the largest commodity DLA Energy manages, the agency also manages coal, electricity, natural gas, renewable energy and aerospace products for federal partners.

Federal agencies seeking to do business with DLA Energy can contact the 24/7 DLA Energy Help Desk at 1-800-446-4950 or energy.helpdesk@dla.mil.

Marc McConahy, DLA Energy Customer Operations Directorate Customer Relationship Management Division chief, provides a brief about the benefits of using DLA Energy at General Services Administration's FedFleet 2018 on Feb. 1. Photo by Kimberly Fritz.



By Connie Braesch

B efore Neil Armstrong took "one giant leap for mankind" onto the moon July 20, 1969, people have been in awe of our place in the universe. For decades, scientists and engineers have sought to reveal possibilities in what was thought impossible.

As space exploration enters a new phase

An Atlas V rocket from United Launch Alliance lifts off from Cape Canaveral, Florida. DLA Energy provides propellants to ULA for commercial space launch. Photo Courtesy United Launch Alliance.



with the commercial space-launch industry sending larger, more efficient and reusable rockets into space, so does the need for reliable, quality sources of propellant.

As the Department of Defense Integrated Materiel Manager for space and space-related products since 2001, Defense Logistics Agency Energy has provided fuel sources for a variety of DoD, federal and commercial missions as well as research.

#### **Provider of Choice**

Averaging about 15 launches per year, DLA Energy Aerospace Energy powers the rockets carrying vital satellites and other spacecraft to improve communication, weather forecasting and knowledge of the solar system.

While DoD and NASA are prominent DLA Energy customers, in recent years private space companies were added to Aerospace Energy's customer list under the Commercial Space Launch Act. The CSLA was passed by Congress in the 1980s to encourage private industry to develop space-related technology.

"One benefit offered by the legislation was access to government infrastructure and resources, including the services DLA provides in managing and distributing the fuel and related products used for these activities," said Ken Grams, director of DLA Energy Aerospace Energy Customer Operations. "With the emergence of several new launch/space companies in the last few years; the legislation is certainly achieving its goals."

When the first privately built and funded spacecraft from Space Exploration Technologies, or SpaceX, connected with the International Space Station in May 2012, it used DLA Energy Aerospace Energy products to get there.

Aerospace Energy also provides propellants for another commercial company, United Launch Alliance. ULA rocket launches carry DoD or NASA equipment, including a satellite used to detect ballistic missile launches and provide advance

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Workers wear hazardous materials suits and follow decontamination procedures around dinitrogen tetroxide or hydrazine at the Hypergol Storage Facility on Vandenberg Air Force Base, California. Hypergolic propellants spontaneously ignite when they come into contact with each other. Photo by Nutan Chada.

warning of nuclear attacks; satellites designed to improve ground communications for U.S. forces on the move; and a satellite to study the Earth's carbon dioxide levels and their effect on climate change.

While the commercial space launch industry is gaining prominence, DLA Energy Aerospace Energy has a long history of supporting federal agencies like NASA, the National Oceanic and Atmospheric Administration and the National Weather Service (both agencies of the Department of Commerce).

When NASA's Orion deep-space capsule was launched in December 2014 on a ULA Delta IV Heavy rocket, it carried Aerospace Energy products. It was the first mission since Apollo to carry a spacecraft built for humans to deep space. It was also the first time this next-generation spacecraft was tested against the challenges of space, and the first operational test of a heat shield strong enough to protect against 4,000-degree temperatures.

In February 2015, Aerospace Energy provided the products for a joint NASA and NOAA mission that launched a SpaceX Falcon 9 rocket carrying the Deep Space Climate observatory satellites into space. The satellites, powered by Aerospace Energy hydrazine, serve as a NOAA weather platform to monitor the solar wind and provide early warning of geomagnetic storms that could affect satellites, communications and power grids.

As NASA's unmanned Juno spacecraft headed toward Jupiter in July 2016 on a ULA Atlas V rocket, it carried propellants provided by DLA Energy to help steer and maintain its position once in orbit, where it would remain the next 20 months.

Aerospace Energy also helped NOAA launch a rocket carrying a satellite system to improve weather forecasting and detect climate patterns, help emergency managers respond to events and help communities recover from severe storms.

#### **Galactic Gases**

While supplying products to support space exploration isn't rocket science, it does involve careful planning and complex supply-chain management.

In a car or airplane engine, fuel mixes with oxygen in the air to produce combustion. Rockets and satellites also rely on a fuel and an oxidizer, but because of the large quantities needed and because there is practically no oxygen in space, the satellites have to take the oxidizer with them or rely on a monopropellant grade of the fuel.

"For instance, for boost you might have liquid hydrogen, which is the fuel, and liquid oxygen, which is the oxidizer," Grams said. "It's the combination of the two that causes the reaction to create the energy required to send the tonnage up into space."

Grams added that the fuel of choice for satellites is hydrazine and the oxidizer is dinitrogen tetroxide, due to their stability and long shelf life. They're know as hypergolic propellants, meaning that when they're combined, they self-ignite. DLA Energy Aerospace Energy stores both.

Of the 92 products DLA Energy Aerospace Energy provides, 11 are specific to space missions: rocket propellant-1 and -2, hydrogen, oxygen, nitrogen, helium, gaseous nitrogen, dinitrogen tetroxide, hydrazine, methane and isopropyl alcohol.

For example, when NASA launched a rocket carrying the New Horizons spacecraft bound for Pluto in January 2006, it carried a variety of Aerospace Energy products.

The Lockheed Martin Atlas

V rocket itself lifted off with more than 91,000 gallons of propellants, quickly reaching 36,000 mph, more than 47 times the speed of sound.

Other chemicals onboard supported a variety of functions, according to the rocket's manufacturer, Lockheed Martin. Liquid nitrogen was used to chill the gaseous helium, which cooled the rocket's Centaur engine pumps. Gaseous helium pressurized propellant tanks, provided purges and operated valves. Gaseous nitrogen purged the various rocket compartments. Hydrazine helped position the spacecraft before separation and settled the fuel in the tank. Rocket propellant-1 and liquid oxygen powered the rocket's RD-180 engine in stage 1, and liquid oxygen and liquid hydrogen were used to power the Centaur engine in stage 2.

The rocket's payload, the New Horizons spacecraft, also relied on DLA Energy Aerospace Energy fuels. Its onboard propulsion system required enough hydrazine to power a dozen 1-pound thrusters for orientation and small maneuvering capability to complete its 10-plus-year mission.

"It's very important that the products meet the specification requirements," Grams said. "Especially for the hydrazine and dinitrogen tetroxide that's put in a satellite or a space probe. The last thing they want is for something to go wrong with the fuel so they can't get the mission accomplished. So we have tight controls on the purity."

On July 14, 2015, nearly 10 years after launch, New Horizon accomplished its mission and became the first spacecraft to fly by Pluto and its moon Charon, sending back high-resolution photographs of Pluto and Charon.

"Quality assurance has to be exact due to the duration of the missions," said Doug Smith, director of DLA Energy Aerospace Energy Supplier Operations. "Any little imperfection can horribly affect the mission. Because our controls are tight, this mission was a



A DLA Energy Aerospace Energy contractor pulls a sample of rocket fuel out of the tank at Vandenberg Air Force Base, California, to send to the Air Force Petroleum Office's fuel laboratory for testing. Photo by Nutan Chada.



Mike Miller (left) and Dan Lerma (right) from the DLA Energy Aerospace Energy Customer Operations team, along with a vendor, stand on top of the giant liquid nitrogen tank during a tour of the Gaseous Nitrogen Plant on Vandenberg Air Force Base, California. The nitrogen is converted from liquid to gas on site and pushed through a pipeline to the different space-launch complexes on the base. Photo by Nutan Chada.

big success. The New Horizons spacecraft traveled more than 3 billion miles over almost 10 years, fueled by our products. So that gives you an example of how important maintaining quality is."

#### **Getting the Goods**

From gathering customer requirements to procurement, transportation, storage and testing, DLA Energy Aerospace Energy is a one-stop shop for its customers, Smith said.

"We have quality assurance representatives at the DLA Energy regional offices worldwide who inspect the product. We have a team of chemists internal to DLA Energy who partner with both the Air Force Petroleum Labs at Vandenberg Air Force Base, California, and Kennedy Space Center [Cape Canaveral, Florida], as well as with the Air Force Research Labs. We manage the containers as well, so customers don't have to go out and procure or manage their own. And we have a team of buyers and customer account specialists who know these products and are experts in them."

"We gather requirements and put them all together. If you buy more of something, you get more interest from industry, which in turn typically gets you a better price," he said.

Getting the aerospace products efficiently from point A to B is part of managing the supply chain, and because these products are hazardous materials, safe handling is a top priority. "Dinitrogen tetroxide and some of the hydrazine fuels are inhalation hazards, are corrosive and have a lot of different labels on them," Grams said. "So the transportation side of it is not as straightforward as sending something via FedEx. You need dedicated drivers and in some cases dual drivers that are HAZMAT certified."

Smith and Grams don't recall any safety problems in transporting these products. The closest call Smith can remember was when there were wildfires out near Vandenberg several years ago.

"They dug trenches to protect the fuels, so it was a nonevent from a safety standpoint, due to all the hard work the folks did at Vandenberg," he said.

Finding efficient ways to get

"ROCKET SCIENTISTS ARE ALWAYS LOOKING FOR A BETTER, SAFER FUEL"

— KEN GRAMS

these products to the customer also helps to keep the costs low.

"A lot of the products start out in the normal atmosphere as a gas, but we buy them as a liquid," Smith said. "They're usually hundreds of degrees below zero, but you get a lot more product if you get it in a liquid that you can turn into gas. And it's a lot more efficient to move it that way too."

At Vandenberg, DLA Energy Aerospace Energy contracts a gaseous nitrogen plant where the product is converted from a liquid back to gas on-site.

"The plant has pumps and vaporizers to convert the liquid to gas, pump it up to a high pressure and push it out via pipeline to the south base launch complexes," Smith said.

Also on Vandenberg is a storage facility for hypergolic propellants.

"The products we manage are specialized, and a lot of work goes into ensuring this supply chain runs smoothly," Smith said. "Being a part of space missions as the logistics supplier for the propellants is something very special. The team isn't just negotiating contracts, placing orders, managing inventory or creating transportation movements; they're [also] impacting historic exploration and scientific discovery."

Ainsley Allen, lab chief for the Air Force Petroleum Office's fuel laboratory at Vandenberg Air Force Base, California, receives samples for testing. The lab tests propellants and gases used on the rockets and analyzes them for contaminants and particles that could interfere with spacecraft operations. Photo by Army 1st Lt. Caitie Sweet.

#### The Future of Space Propellants

With DLA and its customers looking at ways to be more cost-effective and efficient, partnering during the research and development is important.

"Rocket scientists are always looking for a better, safer fuel," Grams said. "We try to get involved in the early stages to help them develop specifications. We're there at the front end to help them avoid issues that can arise in the procurement process at the tail end."

As a member of the Joint Army Navy NASA Air Force Interagency Propulsion Committee, DLA Energy Aerospace Energy promotes and facilitates the exchange of technical and programmatic information among the military, defense agencies, NASA, U.S. industry and academia to respond to current and future aerospace propulsion needs.

"We come together to make educated decisions on investment strategies inclusive of the propellants to support their projects," Smith said. "Wherever space launch goes, we're trying to position ourselves to support their needs."

Aerospace Energy is also partnering with the Air Force Research Labs looking for the fuel of the future, Smith said. It's part of a group looking at cleaner aerospace energy products, as well as a satellite project that could use a "green" monopropellant.

"It could be a replacement for hydrazine at some point," Smith noted.

As the desire to explore and challenge our limits pushes the boundaries of science, DLA Energy Aerospace Energy will be there, ensuring the agency's whole-of-government partners have a reliable and high-quality source for their space fuels.

While we might still think of movies like Star Wars, Alien, Interstellar and The Martian when we think about space travel, out-of-this-world space exploration isn't just for Hollywood.

This story first appeared in Loglines May/June 2018 issue.



# ENERGY RESILIEN CY



#### By Connie Braesch

**C** olar panels stretch end to end **J** spanning as far as the eye can see, absorbing sunlight and softly humming as they generate power on the 180-acre solar



Defense Logistics Agency Energy Installation Energy is responsible for awarding the 25-year contract for the new solar photovoltaic system that generates enough electricity to meet approximately 35 percent of Vandenberg Air Force Base's energy needs. U.S. Air Force photo by Airman 1st Class Clayton Wear.

### 64,880 SOLAR PANELS, **28-MEGAWATTS OF POWER**

energy facility at Vandenberg Air Force Base, California.

The facility, dedicated during a ceremony April 10, is a joint effort between Defense Logistics Agency Energy, VAFB 30th Space Wing, SunPower Corp. and the Air Force Civil Engineer Center.

"We understand the importance of energy and the need for reliable and resilient power on our military installations," said Frank

Rechner, DLA Energy deputy director of Supplier Operations during the ceremony. "As of Jan. 8, this direct-current solar array became fully operational and producing electricity. This is the largest Air Force solar project in which all the energy is consumed by the base."

DLA Energy Installation Energy is responsible for awarding the 25-year contract for the new 28-megawatt solar photovoltaic system that spans roughly 163 football playing fields and generates enough electricity to meet approximately 35 percent of the base's energy needs.

The facility is expected to provide 54,500 megawatt hours of energy annually - equivalent to offsetting carbon dioxide emissions from 8,600 cars

### Environmentally-friendly upgrades at Vandenberg Air Force Base

for one year according to the U.S. Environmental Protection Agency.

"A veteran in the solar industry with more than 30 years in business, we were honored to serve as the solar advisor, designer and installer on this project," said David McIlhenny, SunPower Vice President for Project Finance. "The Vandenberg Air Force Base project features our Oasis power plant technology, a fully integrated, modular solar power blocksystem engineered to optimize land use, and with a long-term contract for belowretail cost of power, we're generating savings that can be

redirected to other priorities on post over the long term."

The solar energy production facility is tied directly into the base's power grid and is behind the meter so all solar energy generated is consumed on site. Vandenberg AFB will purchase the electricity generated under a 25-year renewable energy supply agreement.

Built on a former base housing site, the vacant land was a prime opportunity to implement a life cycle cost-effective renewable energy project that builds energy security and resiliency of the military base while at the same time saving taxpayer money.

"Being part of this multi-

faceted project team supporting Vandenberg has been a significant step forward in executing other efforts across the Department of Defense," Rechner said. "Together, as a team, we look forward to the supply and delivery of reliable and resilient solar power to Vandenberg Air Force Base for the next 25 years."

DLA Energy Installation Energy offers acquisition support for facility energy requirements such as coal, natural gas, electricity, renewable energy credit purchases, long-term renewable energy project development and other energy savings performance initiatives.

### "THIS IS THE LARGEST AIR FORCE SOLAR PROJECT IN WHICH ALL THE ENERGY IS CONSUMED BY THE BASE"

#### — FRANK RECHNER



Solar panels stretch across 180-acres, or roughly 163 football playing fields, at the new solar energy facility on Vandenberg Air Force Base, California. U.S. Air Force photo by Airman 1st Class Clayton Wear.



By Elizabeth Stoeckmann

S eeing water go down the drain is one thing, but watching it gush down storm drains – especially in a drought – is another thing.

In an effort to conserve water on Vandenberg Air Force Base, California, Defense Logistics Agency Energy Utility Services awarded a 50-year performance contract to American Water Operations and Maintenance, Inc. for a Neutral Output Discharge Elimination System, or NO-DES, water main flushing system.

"A typical potable drinking water main flushing system can waste about 22,500 gallons of water," said Chris Wilkinson, president of NO-DES, Inc. "All but about 150 gallons emptied from water hoses at the end of the job are conserved with NO-DES." The Neutral Output Discharge Elimination System, NO-DES, truck is fully equipped with the controls, pumps, filters, hoses and necessary components to flush and filter a potable water system. Photo courtesy of NO-DES Inc.

### A UNIQUE WATER-SAVING TECHNIQUE

In contrast to standard industry practice of dumping water flushed from a potable system during annual cleaning, NO-DES uses a pump to circulate drinking water through the main pipes where it passes through a series of filters which remove sediment and particulate matter, including bio-film. The procedure also scours the pipes to reduce nitrification inducing deposits and improve water quality.

"This system not only cleans the water system pipes but also cleans and treats the drinking water so that it stays within the system," said DLA Energy Contract Specialist Ralph Neely. "Due to critical water shortages in the state of California, this is superb water conservation for the Air Force and is a tool that demonstrates environmental leadership."

The innovative water conservation system is part of DLA Energy Utility Services' efforts to privatize utilities on U.S. military bases to build energy security and resiliency while at the same time saving taxpayer money.

"Utilities privatization is a method by which military installations can obtain safe, reliable, technologically current and environmentally sound utility

"THIS IS SUBERB WATER CONSERVATION FOR THE AIR FORCE AND IS A TOOL THAT DEMONSTRATES ENVIRONMENTAL LEADERSHIP."

— RALPH NEELY

## Environmentally-friendly upgrades at Vandenberg Air Force Base



The control panel on the Neutral Output Discharge Elimination System, NO-DES, truck includes meters and gauges to monitor flow, filter loadings, water quality and system performance. Photo courtesy of NO-DES Inc.

systems at a relatively lower cost than they would under continued government ownership," said DLA Energy Utility Services Director Martha Gray. "In the privatization process, military installations shift from the role of owner operators to that of smart utility service customers."

Since the contract began at

Vandenberg AFB June 1, 2016, AWO&M has utilized the NO-DES unit to clean 27.87 miles of waterlines saving approximately 2.2 million gallons of water.

"Over the course of the 50year contract, this will provide considerable savings," Neely said. "AWO&M is working with the base to expand the number of connection points for the NO-DES to save even more water, improve water quality and keep the assets in tip-top condition."

Although NO-DES is not a government requirement, it is a solution proposed by AWO&M for Vandenberg to not only conserve water but to improve the base water quality, eliminate National Pollutant Discharge Elimination System issues and eventually pay for itself.

Installations seeking to upgrade utility systems must follow the Department of Defense utility privatization quidelines as well as

those found in the Federal Acquisition Regulation Part 15 as negotiated best value procurements.

DLA Energy supports military service partners by offering specialized contracting and technical expertise for utility services concerns.

Rust and calcium buildup is captured in the filtration system during NO-DES operations. Photo courtesy of NO-DES Inc.



U.S. Marines prepare to refuel an MV-22B Osprey tiltrotor aircraft with the assistance of U.S. Soldiers at a forward arming and refueling point Feb. 26, 2018. Photo by Cpl. Jocelyn Ontiveros.

#### By Elizabeth Stoeckmann

D efense Logistics Agency Energy is an integral player in providing fuel data to Air Mobility Command's 618th Air Operations Center fuel tankering program.

The concept known as Mobility Air Forces Cost Avoidance Tankering, or MAFCAT, is a joint U.S. Transportation Command and DLA Energy cost avoidance initiative that recommends aircraft take on additional fuel at locations where the fuel price is lower than the destination.

"We have been working with DLA Energy for more than five years," said USTRANSCOM Joint Distribution Process Analysis Center Mobility Analyst Walter Hunt. "Since the origin of MAFCAT 1.0 in July 2012, it has been a very rewarding relationship."

MAFCAT's original focus was on fuel pricing at 28 AMC locations in U.S. Central Command and taking advantage of aviation fuel cost differentials between these airfields. The effort resulted in almost \$400 million in cost avoidance across DoD.

Tankering suggestions were derived from a DLA Energy spreadsheet provided to USTRANSCOM monthly. The spreadsheet was cross-referenced and converted to an easily understood matrix. A green box on the matrix



meant tankering was recommended because the price of fuel at that origin is lower than the destination's cost and sufficient to offset the increased fuel burn rate from carrying the extra fuel.

FUEL

The impetus behind MAFCAT 1.0 was realizing that DLA Energy's stabilized fuel pricing policy did not reveal the true cost to DoD to provide fuel to the warfighter. While the cost to buy gas in Afghanistan was not significantly different than buying it in Kuwait or Qatar, what was different was the cost for DLA Energy to deliver fuel to locations in Afghanistan.

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Providing gas in Kuwait or Qatar is much cheaper and safer than providing fuel in places like Afghanistan. The logistical threat and cost to move fuel trucks through dangerous regions is high.

#### **MAFCAT 2.0**

Both AMC and USTRANSCOM realized that MAFCAT could have a much broader application. In 2016, JDPAC analysts looked to expand the tankering concept globally.

Meetings with interested parties led to a decision to execute a three-month Proof of Principle to allow stakeholders to refine their process and determine if tankering was sustainable. The number of locations considered for flight planning purposes expanded from 28 to 196.

TANKERING

**Developing solutions to maximize fuel efficiency** 

"One of the biggest limiting factors was how to preclude making the matrix so large as to no longer be a useful tool for the flight managers at the 618th," Hunt said.

The 618th was confident they could move beyond a manually driven system using spreadsheets and incorporated the "cost to deliver," provided by DLA Energy, into their flight planning suite of tools.

This was a significant reduction in the workload for the flight managers and a huge step forward, Hunt said. MAFCAT now looks at more than 1,600 locations monthly and provides tankering recommendations.

DLA Energy also realized there was room to improve the process for MAFCAT 2.0.

"It all started with my deputy director asking me how hard it would be to create a report in DLA Energy's Enterprise Business System," said DLA Energy Customer Account Specialist Mike Park.



Through collaboration efforts between U.S. Transportation Command, Air Mobility Command, 618th Air Operations Center and Defense Logistics Agency Energy, a process transformed the manually driven Mobility Air Forces Cost Avoidance 1.0 into MAFCAT 2.0, a global effort to support the warfighter with a tangible cost avoidance. Infographic by USTRANSCOM and DLA Energy.

A process was developed to reduce the manual work and automate it for MAFCAT 2.0.

Park analyzes fuel cost to deliver data from Enterprise Business System, and several other sources, in order to provide a three-month, rolling average to USTRANSCOM action officers for their review and adjudication before 618th information technology specialists load it in to their flight planning suite.

Within a year, efforts between USTRANSCOM, AMC, 618th AOC and DLA Energy turned a manually driven, labor intensive and regionally focused MAFCAT 1.0 into MAFCAT 2.0, a global, automated effort designed to save the taxpayer money and provide increased effectiveness and efficiency to the warfighter with tangible cost avoidance, Hunt explained.

"Mike is one of the initial MAFCAT 2.0 development team planners and is a critical partner in the MAFCAT execution," said DLA Energy USTRANSCOM Appropriate means tankering will not interfere with the mission; applicable means the math works, and the numbers justify taking on additional fuel.

Liaison Officer Frank Wright. "He is the face of DLA Energy to USTRANSCOM, AMC and the MAFCAT community and should be recognized for his dedicated support."

Park collaborated with DLA Energy Direct Supply Operations, specifically Bulk Petroleum Supply Chain Services, to figure out support from the Defense Fuel Support Point locations AMC utilizes. Use of the Aviation Into-plane Reimbursement (AIR) Card® Online System generates a report that accesses as many data points as possible. A program that started with specific areas is now global.

"I originally started with running EBS reports, but as time evolved, we have evolved our data sources," Park said. "With the use of the AIR Card® program and DFSPs, I can pull data from our contractors. All the data gets generated into an access database that generates a report I email to USTRANSCOM planners. From there, AMC runs it through their algorithms and business rules to help make decisions."

The report focuses on what DLA Energy is paying for fuel and DoD's attempt to save money.

"We take a holistic view of the DoD," Hunt said. "We look at DLA Energy's cost to deliver in relation to AMC's worldwide missions in order to realize significant cost avoidance, which makes a huge difference to DLA Energy."

"The team is always looking for more efficient and effective ways to conduct the mission," said 618th AOC Vice Commander Air Force Col. Brian McDaniel.

With the implementation of MAFCAT 2.0, AOC's data and applications team programed DLA Energy fuel data into the Interactive Mission Record used by flight managers to command and control AMC missions worldwide. The process is fully automated, notifying flight managers when aircrews should or shouldn't tanker fuel.

Collaboration is an essential element in the success of the MAFCAT program.

"JDPAC action officers are the connective tissue," Hunt said. "However, all the hard work is done by Mike Park to feed us the data."

Park said his knowledge in finance, standard pricing, payment data and his background in the AIR Card® program helped in creating the DLA Energy MAFCAT report.

"The MAFCAT was presented to me as a challenge and I went for it," he said. "It's a program that gives DLA the best value and arguably one more tool for our customers for better-buying decisions."

Cost avoidance for the MAFCAT program is at more than \$400 million, or \$80 million per year since it started.

"Compare that to an average fuel bill, and that's pretty significant," Hunt said.

Current expected cost avoidance expectations are on the order of \$10 million a quarter, which has come down quite a bit since there are fewer flying missions into higher fuel priced areas like Afghanistan, he said.

Research into these programs benefits the entire DoD in dollars and lives, Hunt said. Using a metric provided by the Center for Army Analysis, more than 25 lives have been saved because the number of fuel convoys making the dangerous trek through hostile environments in and around Afghanistan has reduced.

Additionally, DLA Energy benefits from selling more gas, Hunt said. A negative net operating result in Afghanistan would typically offset a positive result in Kuwait and Qatar, even though extra fuel was burned when aircraft carried additional fuel onboard. That may seem counterintuitive, burn more gas in order to increase cost avoidance, however it's going to save the DoD money because of the price differential between the two locations and reduces the number of fuel convoys needed to supply locations in Afghanistan, Hunt explained.

Mission planners said they live by two MAFCAT words: appropriate and applicable. Appropriate means tankering will not interfere with the mission; applicable means the math works, and the numbers justify taking on additional fuel.

"We never want to bump cargo, take on more gas than necessary, decrement the pay load or delay a mission," Hunt said.

MAFCAT 2.0 was USTRANSCOM Commander's Innovation Showcase award winner for 2017's first quarter.

"This collaborative team worked across commands and agencies to expand the current MAFCAT concept and empower Mobility Air Forces planners and operators to make cost-informed decisions, resulting in a DoD cost avoidance of \$10.8 million and saving an estimated 25 lives," said USTRANSCOM Chief of Staff Air Force Maj. Gen. John Flournoy.



Mobility Air Forces Cost Avoidance Tankering is a fuel tankering concept that is a cost avoidance initiative that recommends aircraft fuel at locations where the fuel price is lower than the destination. U.S. Air Force photo by Staff Sgt. Benjamin Gonsier.

# **"FUELING"**

# Global

By Connie Braesch

The number one priority for Defense Logistics Agency Energy is meeting the warfighters' competing demands on the battlefield, especially when it comes to providing reliable and high-quality fuel and global relationships.

An operationally vital way of meeting this priority is through the International Agreements program. DLA Energy's Bulk Petroleum Supply Chain Services International Fuel Agreements team is responsible for establishing and maintaining long-term U.S. Department of Defense fuel agreements with foreign militaries. Synchronized with DLA Energy regional offices, they focus on providing global capability to meet future fuel requirements.



"It takes a very special set of professionals to make international agreements successful," said Frank Pane, director of DLA Energy Bulk Petroleum Supply Chain Services. "They need to not only have a firm grasp of the operational needs and workings of the Class III [petroleum, oil and lubricants] supply chain but also fully understand the myriad of governing policies, integrate successfully with the regions, and have the tact and diplomacy to conduct face-to-face negotiations with senior military members of partner nations."

With no less than 25 years of fuel experience for each member, the International Fuel Agreements team provides global

> expertise while being well-versed in navigating complex strategies.

"We foster strategic international partnerships that provide the capability and availability of fuel before it is even needed," said Michael Maclean, a logistics management specialist and member of the DLA Energy International Fuel Agreements team. "We have fuel exchange agreements all around the world that provide reciprocal fuel support between the U.S. and partner nations."

The agreements provide the authority for DLA Energy to obtain fuel services such as pipeline access or product from the foreign country. As of April 2018, DLA Energy has 41 fuel agreements across the world with countries like Honduras, India, Japan, Korea, Spain, Italy, Greece, Argentina, Chile, Indonesia and New Zealand, with ongoing efforts to expand agreement coverage.

"If an agreement authority was not in place and the warfighter needed support, DLA Energy would have to consider other solutions that may take additional time," Maclean said. "Our agreements provide DLA Energy with options to ensure immediate warfighter support, and that's why we focus on expanding agreement coverage."

Collaborative partnerships are key in a global operating environment.

"The agreements play a vital role in any coalition operation, exercise, or humanitarian mission," said David Alexander, chief of DLA Energy International Agreements. "They are used by our forces anywhere we operate and significantly enhance interoperability."

# RELATIONSHIPS

# alliances to support the warfighter

#### **Capitalizing on Efficiency**

Leveraging global partnerships is mutually beneficial and develops alliances around shared interests and resources that optimize the supply chain.

Alexander said the agreements provide economical, operational and logistical efficiencies between both countries. It's not just about selling a gallon of fuel, he said.

"We have a variety of different

types of agreements, and we create a synergy between them where they complement each other," he said. "For example, we have an agreement with the Turkish Ministry of Defense for U.S. use of a strategic Turkish pipeline that runs through the country and has been essential to U.S. operations in the area. To expand beyond this capability, we also developed a fuel exchange agreement with the Turkish Navy and Turkish Air Force."

When it comes time to reconcile financial accounts, the countries are able to use any combination of agreements to streamline settlement, Alexander said. If either party owes the other under the Fuel Exchange Agreement, the debt can be settled by replacement-in-kind, repaid in fuel and delivered into the Turkish-NATO Pipeline



Under an Acquisition and Cross Servicing Agreement, Royal Malaysian Navy frigate KD Lekiu (F30) receives about 5,000 gallons of fuel from USNS Washington Chambers (T-AKE 11) during an underway replenishment, April 7, 2018. Underway replenishments of allied partners present a unique opportunity to strengthen partnerships and exercise compatibility of logistics systems. Photo by Grady Fontana.

#### FUEL AGREEMENT TYPES

The overarching legal framework for reciprocal support with a partner nation is called an Acquisition and Cross Servicing Agreement. With an ACSA, Fuel Support Agreements, Fuel Exchange Agreements or Direct Bill Agreements are possible.

#### **Fuel Support Agreements**

FSAs are very precise, technical arrangements to give access into pipeline and large storage systems. They stipulate payment provisions, quality control, and logistical requirements pertinent to transportation or delivery.

#### **Fuel Exchange Agreements**

FEAs are more widely used, and in essence allow DLA Energy and partner nations to exchange fuel worldwide. They optimize supply chain capabilities and can be used in conjunction with an FSA. For instance, a U.S. Air Force C-17 could take on fuel in the Ascension Islands and DLA Energy could repay the United Kingdom in their pipeline system in England via a book transfer. Likewise, if an Italian navy vessel received marine fuel in Greece and then again in Djibouti, they could repay DLA Energy with aviation fuel via an equal value exchange settlement option in the Northern Italian Pipeline System.

#### **Direct Bill Agreement**

DBAs also authorize worldwide fuel exchanges with monetary payment serving as the primary means of settlement between the partnering countries.

System under the provisions of the Fuel Support Agreement.

"It's about interoperability," Alexander said. "It creates a single supply chain with partnering countries feeding off it."

Maclean says there isn't one agreement that is more important than another, noting they are all valued equally.

"We do business with some countries more than we do with other countries," he said. "Germany is one of our biggest agreements in terms of dollar value or volume exchanged." Scott Stafford, international agreement's lead negotiator for DLA Energy Europe and Africa, highlighted how price saves money. DLA Energy gives the foreign partner the standard price we charge our military forces and, in turn, the foreign partner charges us the same rate as their own military.

Alexander added that offsetting fuel balances gallon-for-gallon during settlement is a great economic efficiency. Australia is a prime example because their price for fuel is consistently higher than in the U.S, he said.

"If they sold us one million gallons and we sold them two million gallons, the first million is offset gallon for gallon," he said. "For that first million, we won't pay more than what we would through the standard price."

Operationally, fuel agreements allow U.S. forces to strategically plan flight routes and ground movements.

Alexander cited the president of the United States' trip to South Africa for Nelson Mandela's funeral in 2013 as an example. He said Air Force One was able to take the most direct route because of DLA Energy's established partnerships with the United Kingdom in the remote Ascension Island location.

"If we didn't have fuel support under a fuel exchange agreement there, the president would have had to go a whole different route," Alexander said.

#### **Global Positioning**

For DLA Energy, it isn't only about the exchange of fuel but also about developing interpersonal relationships with partnering countries.

For the past 13 years, Defense Logistics Agency Energy Europe & Africa has hosted an annual Fuel Exchange Agreement Forum for current and potential fuel agreement partners within the Europe and Africa regions. Thirteen countries participated in 2017, and the fall's 2018 forum is expected to include even more partners.

The event builds interpersonal relationships while providing an opportunity to begin, continue or finalize agreement negotiations; reconcile financial account balances; and open or close Acquisition Cross Servicing Agreement orders to ensure compliance with combatant command ACSA guidance.

"The international agreement program started off some years ago with the service components each having their own agreements," Alexander said. "When it transitioned to DLA Energy, there were only a handful of countries that participated. Since then, it has now grown to be a key forum, valued by our partnering nations and recognized by senior leaders as a key enabler in developing operational flexibility and ensuring uninterrupted fuel support to our warfighters."

Whether U.S. forces are conducting coalition exercises, providing humanitarian support or executing a strategic mission, they need to trust that they have fuel available worldwide to perform their duties. DLA Energy prides itself on understanding customer requirements and anticipating future needs to ensure warfighters have reliable and efficient fuel sources across an increasingly complex global environment.

# POWERING UP OUR CUSTOMERS

### WHOLE OF GOVERNMENT NATURAL GAS, ELECTRICITY AND RENEWABLE ENERGY

By Installation Energy

W hile petroleum is the primary commodity supplied to Defense Logistics Agency Energy's whole of government partners, it also provides electricity, natural gas and renewable energy to support the operations of several federal agencies.

"Working with 12 different government partners on facility energy operations, DLA Energy continues to strengthen its ability to serve national interests," said DLA Energy Installation Energy Director

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Pam Griffith. "DLA Energy's network and expertise in the natural gas and electricity supply chains improves efficiency and provides value to the whole of government."

Thirty percent of DLA Energy's natural gas and electricity portfolio is comprised of federal customers with the Departments of Health and

Human Services, Commerce, Energy and Veterans Affairs representing the largest partnerships.

"The facility energy we provide is critical to government operations," Griffith said. "We frequently work with industry to identify innovative and reliable solutions to position ourselves to be a provider of choice and to meet our customer's energy needs in the best possible way."

#### **Provider of Choice**

DLA Energy is uniquely positioned to be a reliable partner to the whole of government, said DLA Energy Installation Energy Branch Chief Larry Fratis.

"Óur customers know us and trust us," he said. "Our core expertise in energy acquisition increases the effectiveness of our customers by allowing them to focus on their mission priorities, capitalize on economies of scale and avoid duplication."

Pooling customer needs is one way DLA Energy maximizes efficiency.

Contracting officers combine Department of Defense and federal civilian requirements under regional solicitations while adhering as closely as possible to generally accepted commercial practices to maximize supplier participation and competition, Fratis said. The typical contract performance period is two to three years. Prior to the end of the performance period, followon requirements are re-solicited and new contracts are awarded prior to the existing contract expiration period to ensure continuous and seamless thirdparty supplier service, he added.

"Each customer has unique requirements, different levels of expertise and varying local utility tariffs and transportation agreements in place," said DLA Energy Installation Energy Branch Chief Joe Knudson. "It is critical that we capture these nuances and express them accurately in our requirements to receive competitive offers and ensure smooth contract performance."

"If we execute our mission effectively, then our partners can successfully focus on executing their core mission," Griffith explained. "We know we are contributing to something much larger than just supplying energy."

Department of Energy

Argonne, the largest national laboratory in the Midwest, is Installation Energy's second largest federal natural gas customer and fourth largest federal electricity customer. The energy supplied through DLA Energy supports DOE's research and development efforts, to include research in renewable energy and its integration into the electric power grid, energy storage and smart grid technologies.

"Our whole of government partners also look to Installation Energy as a provider of expanded energy solutions," Griffith said. "For instance, the Environmental Protection Agency has participated in our renewable energy credit program for years, purchasing enough credits to claim that 100 percent of their power was generated from renewable energy resources."

In partnership with Installation Energy, the EPA unveiled a new solar farm at its Edison, New Jersey, facility late last year. The solar array system at EPA Edison includes 4,788 photovoltaic panels that generates enough electricity to power 45 percent of the campus' electrical demand annually.

#### Offer Value

When it comes to value, DLA Energy provides competitive and cost-effective solutions, Fratis said.

"We bring value by leveraging the government's buying power," he said. "Rather than each customer soliciting their own requirements, we are able to combine multiple federal civilian customers with our DoD customer requirements in the same market area under one regional solicitation to get greater market attention and more competition."

Numbers tell the story, Fratis added.

DLA Energy competitively procures over 4.7 million megawatt hours of electricity valued at \$250 million on behalf



Defense Logistics Agency Energy officials participated in a ribbon-cutting ceremony for the U.S. Environmental Protection Agency's Edison campus solar panel generation field in Edison, New Jersey, Oct. 25, 2017. DLA Energy awarded the contract for the 4,788 photovoltaic panel system that generates enough electricity to power about 45 percent of the campus' annual electrical demand. Photo courtesy of DLA Energy Installation Energy.

Defense Logistics Agency Energy has electricity and natural gas customers across the Department of Defense and federal government. The annual DLA Energy Fact Book contains information about the organization's business operations and status and is published online at www.dla.mil/energy. Graphic by DLA Energy public affairs.

of its whole of government partners. DLA Energy has provided customers with a competitive choice, netting them an average of 13 percent in direct savings.

"In fiscal year 2017, our whole of government partners also received an additional \$365,000 in utility bill cost reductions through participation in the DLA Energy electricity demand response program," Fratis said.

In natural gas, DLA Energy assesses the program's effectiveness using cost avoidance – the difference between the DLA Energy delivered price and the associated regulated rate of supply by the local utility. During fiscal year 2017, the contracts Installation Energy awarded netted its federal customers a natural gas cost avoidance of \$11.8 million. This equates to a 22 percent savings versus the local utility provider rates.

"Over the life of the program, DLA Energy has saved federal customers more than \$289 million," Griffith said.

#### **Crisis Response**

While humanitarian aid or disaster-response efforts do not typically involve Installation Energy, the team is aware of the importance of providing agile and rapid responses to emergent events.

When extreme cold temperatures curtailed scheduled deliveries during the 2017/2018 winter heating season, the team completed over 250 spot purchases totaling more than 600,000 dekatherms of



natural gas in support of both DoD and federal customers throughout the Northeast, Mid-Atlantic and Southern regions of the U.S. These spot purchases allowed customers to continue operations without interruption, to avoid using more expensive alternate fuel, and to minimize costly utility imbalance penalties.

When the January 2018 'cyclone' weather event threatened the operability of the National Institutes of Health central utility plant operations, the natural gas team worked numerous daily spot purchases to keep the organization up and running.

"NIH is our single largest federal customer in both electricity and natural gas programs," said DLA Energy Installation Energy Branch Chief Mark Warno. "Their central utility plant is one of the largest of its kind in the U.S."

The team's hard work didn't go unnoticed, he said. The Director of the NIH Division of Technical Resources Farhad Memarzadeh praised the team for providing a quality product in a timely manner and often on short notice.

"We feel lucky to have your

staff on board," Memarzadeh told Warno. "They are responsive and dependable at all times, but particularly in emergency situations … we could not ask for more."

"By working with our suppliers to purchase natural gas on the daily market, Installation Energy successfully saved customers an estimated \$4.5 million in alternative fuel costs and penalties during the 2017/2018 winter heating season," Warno said.

"While we understand that our whole of government partners have a choice when it comes to providing natural gas, electricity and renewable energy solutions, we believe the combination of our acquisition and market expertise, our DoD, interagency and industry partnerships, and the cost-effectiveness of our programs deliver the best value to these customers," Griffith said.

DLA Energy will continue to expand its network and expertise in facility energy operations in order to strengthen our ability to support our warfighters and serve broader U.S. government strategic and policy objectives, Griffith added.

# **INVEST IN FUTURE LEADERS** Cultivating careers through job shadowing

#### By Elizabeth Stoeckmann

Defense Logistics Agency Energy employee Chris Boeding walked side by side DLA Energy Deputy Commander Guy Beougher during a week-long shadowing experience Jan. 22-26.

As the division chief for the Bulk Petroleum Products Domestic West division, Boeding said his career goals include becoming a senior executive and this job shadowing opportunity provides insight.

"Things are always changing to the daily schedule," Boeding said as he prepared to listen to a teleconference about Energy's temporary duty assignments during the anticipated government shutdown. "I quickly learned how senior leaders must constantly strategically adapt to the situation at hand."

The shadowing experience developed as part of DLA Energy's mentoring program and was first introduced at a town hall meeting in January.

The shadowing program's intent is to give participants an





Chris Boeding, chief of Bulk Petroleum Products Domestic West Division, walks to a meeting with DLA Energy Deputy Commander Guy Beougher during a week-long job shadow experience, Jan. 22-26. Photo by Connie Braesch.

up-close look at the life of an Energy leader. It is designed to provide participants with professional development, networking, career conversations, exposure to leadership at multiple levels and a broader understanding of DLA Energy.

Boeding is the first DLA Energy employee to participate in the pilot program.

"The opportunity to shadow a leader is a unique experience to observe a desired career objective firsthand," Beougher said. "Participants are not the only ones to benefit from the shadow program. DLA Energy leaders benefit by fostering a coaching culture and increasing transparency of Energy's business strategies."

"This experience is providing a broader perspective and insight into major complexities of 'big DLA' that I may not see every day working for DLA Energy alone," Boeding said.

During Boeding's shadowing experience, he saw how Energy executives' schedules are anything but typical. He realized they must be prepared to handle global issues around-theclock when he participated in a discussion about the impact of a 7.9 magnitude earthquake off the coast of Kodiak, Alaska, that occurred in the middle of the night.

"There was a frantic rush to ensure our warfighters, DLA Energy employees and our assets were okay," he said. "Luckily, the earthquake started miles below sea, so it had no dramatic effects on people or assets."

Closer to home, Boeding attended several high-level meetings such as the annual Joint Petroleum Seminar and the

"Participants are not the only ones to benefit ... DLA Energy leaders benefit by fostering a coaching culture and increasing transparency of Energy's business strategies."

- Guy Beougher

DLA senior leader's alignment group meeting.

"Some meetings last several hours, discussing very interesting topics that have far-reaching impacts across the entire DLA enterprise," he said. "It was informative to see the important discussions and decisions being made at this level."

Boeding's week culminated with a retirement ceremony where he observed DLA Energy Commander Air Force Brig. Gen. Martin Chapin and Beougher honor an employee's 42 years of federal service.

Boeding was able to use the one-on-one time with Beougher to ask targeted questions about executive-level leadership and strategic thinking. During those sessions, he gained valuable insight into how he can improve his personal leadership, streamline work processes and pursue career aspirations.

"One of the most powerful things the deputy commander does is positively impact the workforce," Boeding said. "Whether through strategic initiatives, leading and communicating effectively to the workforce or simply starting a shadow program, shaping the organization for the better is always on Mr. Beougher's mind."

"Each day was busier than the next, providing a satisfying shadow week," Boeding said.

While Boeding was the first employee to participate in the job shadow program, several more future leaders have taken advantage of the program since January. Callie Lake, contracting officer for DLA Energy Bulk Petroleum Supply Chain Services, shadowed Kevin Ahern, acting director of Procurement Process Support, and Rachel Dunlap, chief for DLA Energy Business Process Support Directorate's Reports and Analysis Division, shadowed DLA Energy Commander Air Force Brig. Gen. Martin Chapin. 😰

## CHRIS BOEDING Chief, Bulk Petroleum Products Domestic West

## Describe your position and responsibilities:

I am the division chief for the Bulk Petroleum Products Domestic West division. My division includes two supervisory contracting officers and twelve contract specialists. I am responsible for procuring bulk fuels (jet fuel, marine diesels, etc.) for the western half of the U.S., including Alaska and Hawaii. I also have worldwide responsibility for procuring additives (lubricity improver, corrosion inhibitor, static dissipater, fuel system icing inhibitor) for our bulk fuels. Additionally, my division is



Chris Boeding, chief of Bulk Petroleum Products Domestic West Division.

responsible for several transportation services contracts, including a contingency related domestic truck transportation contract that provides jet fuel support during designated national emergencies.

#### How long have you worked at DLA Energy?

I started as a DLA Energy Installation Energy contract specialist on August 30, 2010. I procured electricity, renewable energy credits and energy savings performance contracts for various domestic installations and agencies.

#### What are your biggest accomplishments to date?

I am really proud of the positive culture I have been a part of building in the Bulk Petroleum Products business unit within the Supplier Operations Directorate. We have coined ourselves the "business unit of choice" because we focus on providing opportunity, career growth and training to our employees in a fun, family-friendly atmosphere so they enjoy being at work and can be the best person possible.

#### How do you make a difference?

I have a master's degree in organizational psychology, so I have a strong passion for focusing on why and how people within organizations are motivated, effective and satisfied at work. With this mindset, I always try to create a positive and healthy workplace that inspires people to perform at high levels to better achieve the mission.

#### Why do you think DLA is a great place to work?

DLA is a great place to work because of the opportunity for growth, familyfriendly culture and direct positive impact we have on supporting the warfighter.



# DEFENSE LOGISTICS AGENCY ENERGY

# **SMALL BUSINESS OPPORTUNITIES**

DLA Energy's Office of Small Business Programs advocates to increase business opportunities for small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns. Some of the products and services we seek include:

Fuels Management | Utility Services | Renewables | Jet Fuel | Natural Gas Petroleum | Coal | Compressed Gases | Quality and Technical Support

If you are interested in doing business with DLA Energy, visit our website at www.dla.mil/Energy/Business or email us at DLA.Energy.OSBP@dla.mil



www.dla.mil/Energy