Newsletter

USACE Fueling Systems POL-MCX

PROVIDING **CLEAN**, **DRY** FUEL **RELIABLY** AND **SAFELY** TO SUPPORT THE MISSION/TROOPS.

Aggressive Execution

Over the past year this publication has explored how the U.S. Army Corps of Engineers (USACE) Petroleum, Oils, Lubricants Mandatory Center of Expertise (POL-MCX) succeeds at **Effective Communication, Technical Competency, & Aggressive Execution**. In this issue we highlight the project lifecycle production capabilities of the POL-MCX that provides the Department of Defense with a relevant, responsive, and reliable resource for executing fueling system projects.

In FY17 the POL-MCX executed $119M in design/construction contract awards, technical support labor, and contract capacity shared with other Districts. These POL-MCX resources provide the **consistent quality and highest value** expected of USACE, while remaining responsive to the changing mission needs. The historic knowledge, tools, and effective processes developed and maintained by the POL-MCX help our partners to be successful when executing MILCON, SRM, emergency, and technical reach back support projects.

The POL-MCX is proud of the Effective Communication, Technical Competency, & Aggressive Execution used to make FY17 a successful year for us and our partners, and we look forward to a successful FY18!

PHOTOS CAPTIONS & CREDITS

Top: POL-MCX engineers working with Far East District and DLA to compare design and as-built drawings of fuel piping at Camp Humphreys, Korea. Left to right: Bob Gunkelman (POL-MCX civil engineer), Eman Sundquist (Far East District project manager), Craig Margrave (POL-MCX mechanical engineer), SFC Nicholas Braddock (DLA-Energy), Rob Carter (DLA Installation Support), Mike Merwald (POL-MCX electrical engineer).
Photo by G. Etter.

Middle: Operating tanks and pumphouse at Offutt AFB Type III hydrant fueling system.
Photo by H. Weddington.

Bottom: Army Soldiers at Fort Lee's Petroleum Training Facility performing field tests of fuel quality.
Photo by G. Etter.

IN THIS ISSUE

POL-MCX Ongoing Fuel Projects

DESIGN-BUILD AND RAPID RESPONSE	
USACE DISTRICT	SITE NAME(S)
LRL	BLUE GRASS AD FT CAMPBELL FT WAYNE KELLOGG MANSFIELD RICKENBACKER ANG ROCK ISLAND ARSENAL SCOTT AFB TOLEDO WRIGHT PATTERSON AFB
NAB	CAMP DAWSON
NAE	BRADLEY CONCORD PEASE QUONSET
NAN	MCGUIRE AFB
NAP	DOVER AFB TOBYHANNA AD
NWK	FORT LEONARD WOOD IKE SKELTON
NWO	CAMP GUERNSEY CAMP RIPLEY ST CLOUD WATERLOO
NWS	JB LEWIS MCCHORD
POH	JB PEARL HARBOR HICKAM
SAJ	CAMP BLANDING MAYPORT
SAM	ANNISTON AD CAMP MCCAIN NAS MERIDIAN
SAS	CAMP LEJEUNE CHARLESTON AFB MORRISVILLE
SPK	BRIDGEPORT DUGWAY WEST JORDAN
SPL	AASF MARANA CAMP NAVAJO CAMP PENDLETON FORT HUACHUCA VANDENBERG AFB YUMA
SWF	FORT HOOD
SWT	CAMP GRUBER

POL-MCX Site Visit Look-Ahead

Q1FY18 LOOK-AHEAD	
USACE DISTRICT	SITE NAME(S)
LRL	FORT CAMPBELL GRAYLING AAF GRISSOM ARB NORTH CANTON YOUNGSTOWN
NAB	AASF PARKERSBURG AASF WHEELING ELEANOR FUELING FAC
NAE	BURLINGTON
NAO	MCB QUANTICO
NWK	CAMP CROWDER FORT RILEY
NWO	BUCKLEY AFB CAMP RIPLEY FT MCCOY
POJ	CAMP BUTLER CAMP FUJI IWAKUNI MCAS FUTENMA OKINAWA

Q1FY18 LOOK-AHEAD (CONT')	
USACE DISTRICT	SITE NAME(S)
SAC	MCRD PARRIS ISLAND
SAM	ARNOLD AFB EGLIN AFB PATRICK AFB
SAS	DFSP CHARLESTON FORT BENNING POPE AAF SEYMOUR JOHNSON AFB
SPK	BEALE AFB FT HUNTER LIGGETT
SPL	29 PALMS CAMP PENDLETON EDWARDS AFB FORT IRWIN LOS ALAMITOS MCAS YUMA YUMA PROVING GROUND
SWF	DYESS AFB FORT BLISS FORT POLK

PHOTO CAPTIONS ON PAGE 4

Fuels Spotlight: AAFES Fuel Tank Analysis

The Army Air Force Exchange Service (AAFES) has proudly served America's armed forces since 1895 by providing relevant goods and services at competitive prices. Part of this mission includes providing liquid fuel (typically gasoline) at retail fuel stations at locations around the world. Providing this service requires compliance with fire, safety, and environmental regulations.

AAFES conducted a study to evaluate the initial and life-time costs of three fuel tank storage and delivery systems: direct-bury underground storage tanks (UST, see diagram), aboveground tanks, and below-grade vaulted tanks. Direct bury USTs have historically been the most common vessels used to store motor fuels at commercial gas stations and convenience stores, mostly due to their minimal real estate requirements and increased fire safety. **The source of most UST leaks was due to components other than the tank itself** (piping, joints, connectors, gaskets, dispensers, etc.) according to published studies available on the source and cause of leaks from USTs.

AAFES has embraced new technology and design innovation to provide a means of minimizing the risk of fuel release from underground tank and piping systems. For example, **AAFES uses three redundant technologies to maximize system integrity in its UST systems**:

1. Double-wall non-corrosive fiberglass tanks and piping systems with no buried mechanical joints.
2. Interstitial leak monitoring on piping and tanks.
3. Real time fuel accounting/volumetric leak monitoring using automated tank gauge (ATG) and 24/7 third-party monitoring.

Additionally, system construction permitting requires rigorous installation inspection to ensure that the proper materials are used and that backfill material compaction is accomplished to minimize tank movement over time. Tanks and piping are tightness tested throughout the installation process to ensure system integrity.

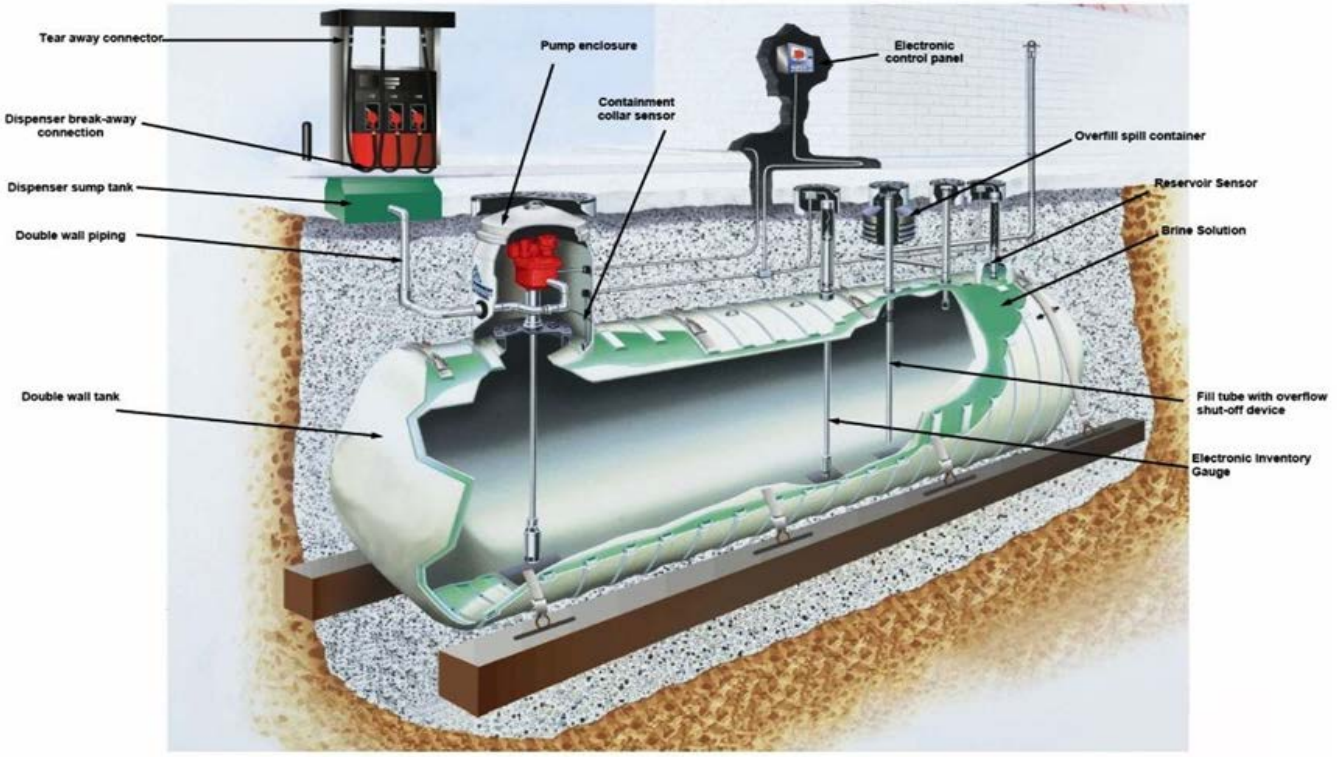
AAFES tasked Robert & Company to study the initial and life time costs of the three tank systems mentioned above over a 30 year future life. It was found that UST systems provide an optimum mix of environmental protection, fire protection, safety, security, operational capability and maintenance. The study also found that **USTs have the lowest sustainment costs,** with sustainment costs for aboveground tanks and below-grade vaulted tanks predicted to be 41% and 110% higher than USTs respectively.

A copy of the study can be found on the References section of the POL-MCX homepage. For further information please contact Mr. Patrick Mumme at mummepg@aafes.com.

INITIAL AND LIFE TIME COSTS OF FUEL TANKS

Tank Configuration	Initial Cost Installed	30 Year Cumulative Sustainment Costs
USTs	$747,077	$2,577,630
Aboveground	$1,316,029	$3,637,597
Below-Grade Vaulted	$1,785,893	$5,420,364

TYPICAL UNDERGROUND STORAGE TANK (UST) PROTECTION SYSTEMS



Interview of the Quarter: Mr. Todd Wolpert POL-MCX Emergent Program Manager

Below we learn about Mr. Todd Wolpert and his history with the POL-MCX.

➲ **What is your role in the POL-MCX?**

I manage and execute the Emergent Fuels Program of the POL-MCX in Omaha District. As a life cycle project manager I am involved in project acceptance, development, execution, closeout, and reporting. I regularly engage with my counterparts at other Districts to coordinate on-site support and ensure that our funding partners receive a consistent quality of deliverables around the world.

➲ **What do you enjoy most about the fuels program?**

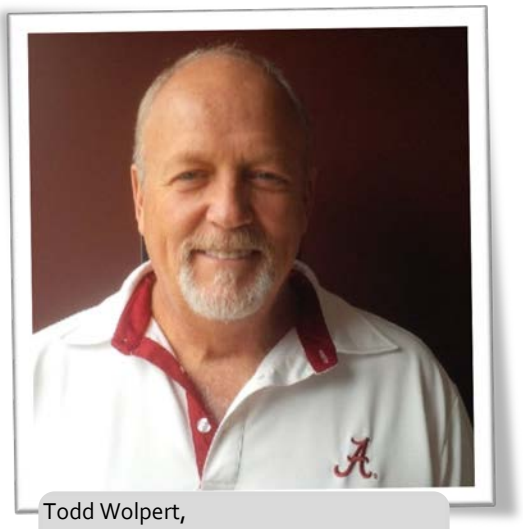
Most of my projects are challenging, unplanned, and require different resources to execute. I enjoy combining resources within POL-MCX, USACE, and the fuels community to meet the specific requirements of each project. For example, I sometimes partner with the Rapid Response Center of Expertise in Omaha for time-sensitive and mission-driven projects.

➲ **Is there a project that stands out more than others?**

There are so many that it's hard to pick one. Just when I think I've seen it all, I'm informed of a new issue that we've never before encountered. These types of challenges bring out the passion and pride of the fuels experts in the POL-MCX as we work as a team to solve the problem. If I had to pick just one it would be relocating 15 alligators at Joint Base Charleston, SC so pipeline repairs could be performed. One of the alligators is an 800-pound, 75-year-old alligator named Charlie who happened to be the local celebrity and appears on the local news quite often!

➲ **What might someone be surprised to know about you?**

I served over 20 years in the US Coast Guard as a Chief Damage Controlman. I supported the Challenger Space Shuttle debris location effort, and am a big fan of Alabama Crimson Tide football. ROLL TIDE!



Todd Wolpert,
POL-MCX Emergent Program Manager.
Photo by T. Wolpert

What's Wrong With This Picture?

Put your fuel system assessment skills to the test by examining this pipe configuration and identifying what is incorrect.

For a clue, reference AW 78-24-28
Pressurized Hydrant Fueling System Type III

https://www.wbdg.org/ffc/dod/non-cos-standards

HOW TO REACH US

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PHOTOS CAPTIONS & CREDITS FROM PAGE 2

Left: Placing concrete around shell of cut-and-cover fuel storage tank at Camp Humphreys, Korea.

Middle: Tim Colón (Far East District, middle) and Nick Dubas (POL-MCX structural engineer, right) review design drawings for fuel storage tanks under construction at Camp Humphreys, Korea.

Right: Nick Dubas (POL-MCX structural engineer, left) revealing concrete delamination to contractor (middle) and Tim Colón (Far East District, right) at Camp Humphreys, Korea.

Photos by G. Etter