News Briefs

Joint Army-Navy Team Provides Water for Biloxi Hospital

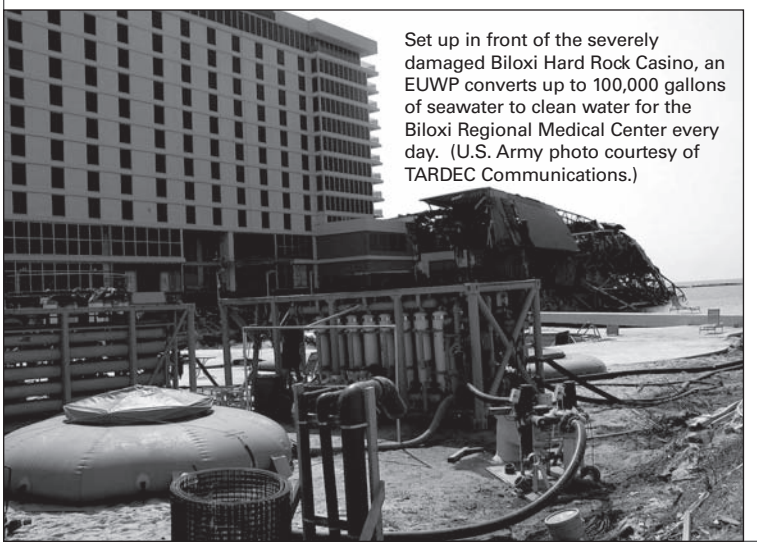
Paul D. Mehney and Susan Pierchala

A U.S. hospital without running water was hardly imaginable early last August but it became a reality. When Hurricane Katrina slammed into the Biloxi, MS, region Aug. 29, 2005, it did not differentiate between hospitals or hotels, and destruction was swift and complete.

"Immediately after the hurricane struck, we were without any clean water for drinking, cleaning or surgical tasks," said Darrin Ivey, Biloxi Regional Medical Center facilities manager. To make matters worse, injured and displaced residents were streaming in for medical care. Soon, the Federal Emergency Management Agency (FEMA) dispatched dozens of tanker trucks to the location with thousands of gallons of clean water, but it was not enough.

"For a few days, we didn't have water at all," said Biloxi Regional's Lori Derouen. "When we finally were able to get water running in the building, it wasn't potable. We had to boil everything to cook the food. We were using bottled water, sanitizer to rewash our hands." The situation was dire.

Sitting on the Gulf of Mexico, Biloxi had no usable water. On Sept. 4, 2005, FEMA requested that the Office of Naval Research (ONR) in Arlington, VA, release two Expeditionary Unit Water Purifiers (EUWPs) — a program still in research and development. Although one EUWP was at a Bureau of Reclamation (BoR) site in New Mexico and another in California, ONR Commander Rear Admiral Jay M. Cohen ordered them sent with all possible speed to Mississippi. Under FEMA direction, one unit was immediately slated to provide potable water to the Biloxi Medical Center and another was dispatched to a site in Pascagoula, MS. Four BoR researchers volunteered to stay with and operate the Biloxi unit. As BoR Project Manager John Walp was leaving for Biloxi, he said, "We'll be cleaning up the water and we're glad to do this, we are really proud to provide Katrina relief."



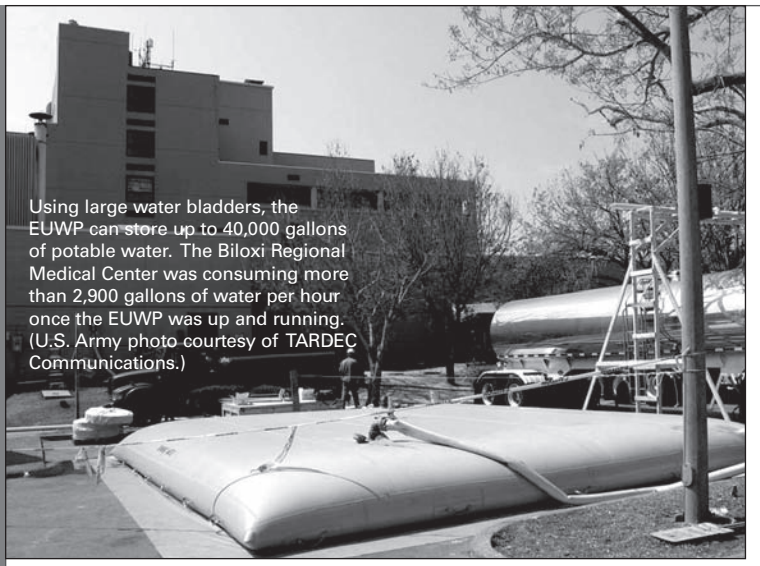
Set up in front of the severely damaged Biloxi Hard Rock Casino, an EUWP converts up to 100,000 gallons of seawater to clean water for the Biloxi Regional Medical Center every day. (U.S. Army photo courtesy of TARDEC Communications.)

Jointly developed between ONR and the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC), with testing performed by the BoR, EUWPs can supply potable water from virtually any water source, including nuclear, biological and chemical contaminated sources. Originally designed to support large military units during deployment and sustainment operations but now being used for disaster relief, each EUWP can produce up to 100,000 gallons of water per day from seawater or 200,000 gallons from freshwater.

The EUWP consists of two separate International Organization for Standardization-configured platforms that are compatible with the military's Palletized Load System trucks and most commercial line haul transports. The system uses ultrafiltration to process freshwater and reverse osmosis technology to filter seawater.

Using large water bladders, the EUWP can store up to 40,000 gallons of potable water and is powered by a 60-kilowatt diesel generator. According to TARDEC Program Engineer Drew Downing, "The whole system is self-contained. All we need is diesel fuel to operate. Although this system is still in the research and development phase, it was proven that we can respond in a matter of days, set up in a couple of hours and generate potable water."

The first EUWP arrived in Biloxi Sept. 7 and TARDEC engineers working with BoR staff were, within a matter of hours, able to begin converting Gulf Coast seawater directly to potable water. Getting the water from the EUWP to the hospital proved more challenging than decontaminating it. With help from hospital staff and Mississippi Department of Transportation personnel, a system of PVC pipe was installed to reach the hospital — three uphill blocks off the coast where the unit was positioned. Part of the pipeline ran under US 90 — not a small engineering feat considering most of the road was destroyed.



Using large water bladders, the EUWP can store up to 40,000 gallons of potable water. The Biloxi Regional Medical Center was consuming more than 2,900 gallons of water per hour once the EUWP was up and running. (U.S. Army photo courtesy of TARDEC Communications.)

After a system flush and testing by the U.S. Health Service and the Mississippi Department of Health, water was soon flowing to the hospital. Ivey commented, "No one on this end of town has potable water. TARDEC's EUWP has given us the ability to have water. Without it, everything was reduced — from surgery to food preparation to hygiene — and we are still very busy." The medical center is now consuming more than 2,900 gallons of EUWP-provided water per hour.

Paul D. Mehney is TARDEC's Communications Officer.

Susan Pierchala is a quality assurance specialist working with Program Management Tactical Vehicles and currently on a developmental assignment as a Marketing Specialist with the TARDEC Communications Team.

PM DWTS Quickly Supports Katrina Relief Efforts

Sandy Santiago

Within days of Hurricane Katrina's devastating path through several Gulf Coast states, Project Manager Defense Communications and Army Transmission Systems' (PM DCATS') Product Manager Defense Wide Transmission System (PM DWTS) quickly deployed communications systems to replace the destroyed communications infrastructure in Louisiana.

PM DWTS received an Army directive Aug. 31, 2005, to provide two satellite communications (SATCOM) terminals and two accompanying technicians to support relief efforts in Baton Rouge. According to PM DWTS Thomas Lucy, within 2 days his organization had two Combat Service Support Very Small Aperture Terminals (CSS VSATs) and technicians Efren Morales and Christopher LaSalle on the ground in the beleaguered city.

PM DWTS was tasked Sept. 9 to deploy eight additional CSS SATCOM systems along with seven additional technicians to Louisiana to support relief efforts. Lucy said PM DWTS responded by sending CSS SATCOM systems, including CSS VSATs in tandem with the CSS Automated Information Systems Interface, which wirelessly connects the system to a local or wide area network.

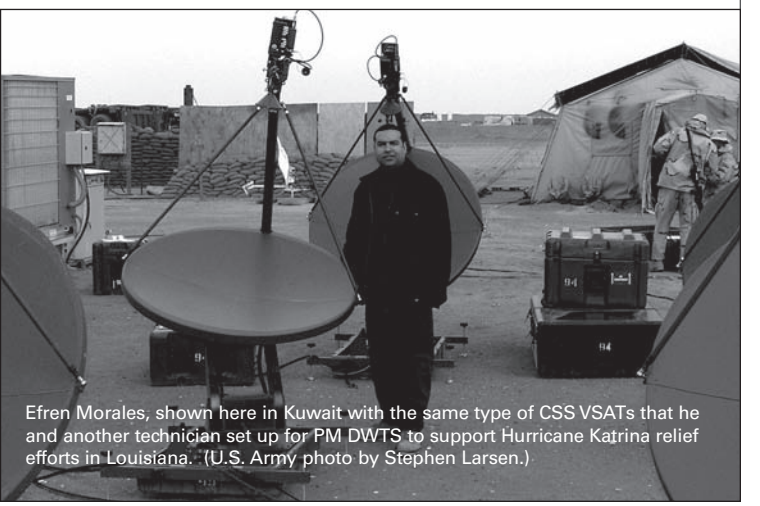
PM DWTS had these additional systems and technicians on the ground by Sept. 11. Lucy noted that these CSS SATCOM systems are "the same seamless solution PM DWTS is providing to Soldiers in Iraq and elsewhere around the world to support the Army G-4's 'Connect Army Logisticians' initiative."

On Sept. 3, the Army Field Support Command (AFSC) headquarters also directed PM DWTS to deploy two AFSC-owned vehicle-mounted Multi-Media Communications Systems (MMCSs), which provide satellite access for NIPRNET (Nonclassified Internet Protocol Router Network) and SIPRNET (Secret Internet Protocol Router Network) connectivity.

These two vehicle-mounted MMCSs were to meet up with a vehicle-mounted MMCS already located at Fort Polk, LA. PM DWTS had the systems on the ground in Louisiana and on line by Sept. 5, serving as the main command and control systems for relief effort logistics.

"We also have a fourth vehicle-mounted MMCS here at Fort Monmouth [NJ], which we've got standing by for deployment, if needed," said Lucy.

Lucy was pleased, but not surprised, by how quickly his team was able to respond to the call for help. "What you've got to



Efren Morales, shown here in Kuwait with the same type of CSS VSATs that he and another technician set up for PM DWTS to support Hurricane Katrina relief efforts in Louisiana. (U.S. Army photo by Stephen Larsen.)

understand is that when our people first got to Louisiana, there was nothing — absolute devastation," said Lucy. "We now have three vehicle-mounted MMCSs and 10 CSS SATCOM systems on-site. In less than 2 weeks, we helped to get a viable logistics communications backbone up and running in a disaster zone."

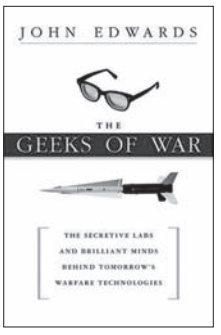
PM DCATS and PM DWTS, located at Fort Monmouth, report to the Program Executive Office Enterprise Information Systems (PEO EIS), located at Fort Belvoir, VA.

Sandy Santiago is an information specialist with Symbolic Systems Inc., providing support to the PEO Command, Control and Communications Tactical Chief Information Office; the Communications-Electronics Life Cycle Management Command Chief Technology Office; and the Team Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance Knowledge Center.

Worth Reading

The Geeks of War: The Secretive Labs and Brilliant Minds Behind Tomorrow's Warfare Technologies

John Edwards
AMACOM, 2005, New York



Reviewed by Joe Sites, Executive Vice President of BRTRC Inc., Fairfax, VA.

A military Internet group member recently forwarded a *Boston Globe* review of *The Geeks of War*. Immediately, a number of complaints regarding bias, politics and myriad other things were posted. I had intended to read this book, and these complaints only ensured that I would. I did, and I highly recommend it to members of the acquisition, logistics and technology (AL&T) community.

To use a familiar expression, the book's coverage is a mile wide and an inch deep. If you are a specialist in one area — for example, smart weapons — you will find that the material hits only the high spots of that area and that the particular section may not be informative to you. There are, however, so many areas covered it is almost certain that this book will provide useful information in other areas that could be applied to your field of expertise. In keeping with the current emphasis on systems integration, this book provides scientists and engineers a good overview on technologies that can greatly influence the development of military systems.

The introduction to *The Geeks of War* is titled "The Military-Technology Matrix" and it provides an excellent summary of government's and industry's roles and activities in the development of military technologies. This discussion not only lists organizations, it also provides a list of national critical technologies. In telling who and what are involved in military technologies, the author prepares the reader for a better understanding of what is happening in ongoing activities.

Edwards has divided these activities into seven broad areas, each of which is covered in a separate chapter. The spectrum of the material covered in this book can best be understood by listing the subjects in each of its seven chapters: tactical systems; information systems; telecommunications, health, medicine and biotechnology; vehicles and logistics; security and cryptography; and uniforms, protective gear and other equipment.

Of particular interest to me was the discussion of blogs by groups working on a special project. We have recently seen contributions to blogs by some of our junior officers in sharing their experiences in combat. While these have undoubtedly expanded the capabilities of the participants, it has been recognized that without proper security, these blogs could aid a potential enemy. It does not take too much of a stretch of the imagination to consider the possibility of blogs permitting members of different technical organizations with different specialties to make contributions in areas where input would be helpful from a variety of sources.

Now, I have a couple less complimentary comments. I do not like the title *The Geeks of War*. In the current vocabulary, the word "geeks" may be acceptable, but because of my age and many years working with Army research and development scientists and engineers, I find it difficult to use the word geeks in describing them. They are a dedicated group of highly skilled professionals.

My second comment involves the number of projects and the changing environment. It is extremely difficult to keep all the material current. This became evident with one item in the health, medicine and biotechnology chapter. I had