

NewsNotes

from the

China Lake Defense Alliance

China Lake Defense Alliance: committed to preserving China Lake as a full-spectrum weapon system RDT&E and training resource for the armed forces of the United States and our allies throughout the free world

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Subscription Information

The China Lake Defense Alliance is a community group and is not affiliated with the U.S. Navy or the Naval Air Warfare Center Weapons Division China Lake.

CHINA LAKE'S HELLFIRE WARHEAD USED IN IRAQ

In July 2002, the first reports of a strange new warhead began to leak out of Washington. Associated Press filed a story about an interview with Steven Younger, Director of the Defense Threat Reduction Agency (DTRA).

"Younger's agency also is working on other kinds of advanced non-nuclear weapons," AP reported. "He said experiments have been done on arming a Hellfire air-to-ground missile with a thermobaric warhead, which ignites an explosive mist that sends a powerful shock wave through a cave or tunnel, annihilating everything and everyone inside. Such a weapon is likely to be ready for use 'in fairly short order,' Younger said without being more specific."

Eight months later the weapon proved that it was indeed ready for use. A Marine Corps helicopter launched a Hellfire equipped with the new warhead against an enemy target on the first night of Operation Iraqi Freedom.

"That thing was awesome," said the Marine aviator. "I thought it was a 2,000-pound JDAM going off."

The effects of the new Hellfire warhead are formidable. Unlike conventional warheads, which have a sharp pressure spike that decays rapidly, the thermobaric warhead (more accurately, a

metal-augmented-charge or MAC warhead) has a sustained pressure wave. That pressure propagates throughout a structure to extend the lethal effects of detonation.

Come to the Pros

Early in 2002, DTRA tasked China Lake to develop a new warhead for the Hellfire missile. Hellfire is a relatively small weapon—a bit over 5 feet long and weighing around 100 pounds—that is launched from helicopters and unmanned aerial vehicles.

This new warhead would need to be more suitable for operations in urban terrain and be capable of inflicting greater damage in multi-room structures than the standard Hellfire warhead. The number one requirement was that it increase the probability of personnel lethality or incapacitation.

Choosing China Lake was only natural. It is far-and-away DOD's number-one resource for the research, development, test, and evaluation (RDT&E) of energetics, propellants, explosives, and warheads.

Hellfire's MAC warhead technology has its China Lake roots in the 1960s, when the Navy's premier scientists in the field of energetics were conducting basic research into fuel-air explosives (FAEs). China Lake scientists and engineers subsequently developed these concepts into several tactical weapons.

In the 1990s, China Laker Phil Dixon and Henry John and others developed nonliquid FAEs containing aluminum particles. The goal was a solid FAE with a greater impulse (pressure over time) than conventional explosives.

Dixon and John's received a classified U.S. Patent for their work, which was the basis for the MAC warhead.

The new warhead contains a fluorinated aluminum powder that is layered between the warhead casing and the PBXN-112 explosive fill. When the PBXN-112 detonates, the aluminum mixture is dispersed and rapidly burns. The resultant sustained high pressure is extremely effective against enemy personnel and structures.

Incredibly, the entire MAC warhead task—total design, development, assembly, explosive loading, integration into the missile armament section, and testing—was done in about a third the time normally required for such an effort. “Thirteen months from funding to fielding,” said John Ayers, the project's systems engineer.

And China Lake actually built the 60 units that were shipped out for combat use by Marine Corps operational units.

New and Old

China Lake has expanded its mission to match the increasing complexity of 21st Century warfare. Across this vast facility, scientists and engineers are engaged with such relatively new and complex issues as network-centric-warfare connectivity, GPS jamming strategies, and high-power electromagnetic radiation testing.

But China Lake also tends its traditional roots—like the down-and-dirty task of devising more efficient ways to blow things up. With sixty plus years of energetics RDT&E experience and facility investment, China Lake still does that better than anybody.

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EDITOR'S CORNER

Room for Growth at China Lake

According to Department of Defense analysts, the U.S. military base infrastructure is 20-25% larger than needed. That's the primary reason for BRAC.

However, it's not the only reason. When Secretary of Defense Donald Rumsfeld laid out his objectives for BRAC 2005, he made it clear that there were other objectives than simply eliminating excess base infrastructure and saving money.

In a letter to the military services and defense agencies on November 15, 2002, Rumsfeld set specific objectives for BRAC: to maximize warfighting capability and efficiency, and to examine and implement opportunities for greater joint service activity.

If the BRAC process is to meet these objectives, it must properly assess the assets and capabilities of each and every military base. In the February 2005 edition of *NewsNotes* we spelled out the published assessment criteria. We, along with our counterparts throughout the country—grassroots organizations supporting their local military bases—were critical of those original BRAC criteria as being too general. But the Department of Defense refused to be more specific, and we must live with those generalities.

A 20 to 25% reduction in base infrastructure will require the closing of many bases. At the same time, it will require the transfer of the missions and jobs from those bases to other bases capable of absorbing them. Small bases are particularly vulnerable to closure. Large bases, with a greater capacity to absorb missions, people, and facilities, will have an edge in surviving—even growing—in BRAC 2005.

Bases that aren't being encroached by residential and industrial development have an added edge. Many military facilities are under intense encroachment pressure—particularly those in the Eastern part of the country and those near large urban areas. Some states and communities are attempting to build encroachment “buffers” through land purchase, or by persuading property

owners and conservation groups to set aside “green zones.” In some instances Federal money is being sought to subsidize purchase of land, a direct threat the fairness of the BRAC process.

China Lake, however, has no encroachment problems. It has the real estate, air space, security attributes, facilities, and other assets needed to absorb additional missions and jobs.

While we believe that any mission realignment to China Lake should be compatible with the base’s present mission, that still leaves plenty of options for the Defense Department to bring new work, new jobs, new people, and new funding to the Indian Wells Valley. China Lake can easily absorb work from other bases with similar missions, not only for the Navy but for other services as well. And China Lake has the land, the secure environment, the management flexibility, and the joint-service experience to take on entirely new missions.

The Indian Wells Valley has the capacity to accommodate new residents, and it welcomes them. Ridgecrest’s Business Development Manager has been assigned to provide the Navy with all requested information regarding the community’s ability to expand its population base. The city has thoroughly studied the infrastructure demands associated with an

expanded China Lake mission and has identified a significant potential for growth. And the cost for housing in the Valley—still far below that of communities in most of the United States—adds to the attractiveness of Ridgecrest and China Lake.

China Lake’s capacity to expand its joint-service support missions, coupled with the community’s ability to accommodate an influx of new military and civilian personnel, place the Indian Wells Valley in an ideal position to help fulfill Secretary Rumford’s vision of a more effective joint-service warfighting capability.

For the Indian Wells Valley, BRAC has as much up-side potential as it does down-side. BRAC offers a genuine opportunity for expansion, as opposed to contraction or closure. But China Lake’s success in BRAC will depend on an intense and concerted effort at the local, county, state, and federal levels. It will require the participation of every one of us who believe that China Lake is worth fighting for. The future of this Valley hangs in the balance.

A LEVEL PLAYING FIELD?

Part Four: Mississippi

California is home to 35 million people (about 12% of the nation’s population) and has the largest number of military installations in the nation (36 major and 25 minor facilities).

Mississippi, by contrast, has a population of about 2.8 million, just about 1% of the U.S. population. The state has a total of 12 military installations, including five major military bases as well as reserve and National Guard bases. No Mississippi bases have ever been closed from a BRAC.

California is better prepared for BRAC 2005 than it was for BRAC 95. The state approved an \$800,000 grant program for 2002 and 2003 to help military communities prepare for BRAC and set up the Office of Military Base Retention and Reuse in Sacramento.

So how does that stack up with Mississippi?

Mississippi is fighting the BRAC with a four-pronged attack. For starters, the state is attacking the very concept of BRAC. Sen. Trent Lott (R-Miss.), in an unusual alliance with Sen. Dianne Feinstein (D-Calif.) offered an amendment to the Defense Authorization Bill that would have required DOD to consider international bases for closure before shutting down bases in the United States. Of base closures in general, Lott has said “I will try to halt [them] any way, any time I can.”

Rep. Gene Taylor, (D-Miss.), a member of the House Armed Service Committee, sponsored the House provision to delay BRAC 95 for two years. “The only thing better than delaying a (base closing) process is doing away with it altogether,” Taylor said.

Second, the state is using experienced lobbyists to press its case for retaining all Mississippi bases. In the early 1990s, Barry Rhoads was hired as a consultant to help protect the state from base closings. Rhoads, who served as General Counsel to the BRAC in 1991, has been described as one of the nation’s top BRAC experts.

For example, he has been credited with saving NAS Meridian from the BRAC axe, despite the fact that the Navy recommended the base for closure in 1991, 1993, and 1995. According to Bill Crawford, Deputy Director of the Mississippi Development Authority, Meridian is the only base to have been listed during three different base closure rounds and still remain open.

There are also many community volunteer groups and individuals supporting the state’s military bases. For example, retired Air Force Lt. Gen. Clark Griffith, former commander at Keesler Air Force Base, is a volunteer consultant for Biloxi and the Military Communities' Council. During his 35-year military career, Griffith helped make decisions on which Air Force bases could face restructuring or closing.

Third, in recent years the Mississippi delegation in Washington has supported a spate of new military construction projects in the state. According to Rhoads, the delegation increased the level of Pentagon investment at Mississippi bases by more than \$182 million over a six-year period.

Finally, Mississippi is spending \$11 million to fight BRAC closures. That’s more than any other state.

Though less than a third the size of California, and with a tenth of the population, Mississippi is clearly very serious about mounting a strong defense of its military bases in BRAC 2005.

California Update: The following excerpts are from an 11 June 2004 *San Diego Tribune* article titled “Funds to Help Save Military Bases Rejected.”

“SACRAMENTO – Brushing aside the threat of another staggering blow to the economy, state budget writers yesterday rejected a proposal to set aside \$1 million for a unified campaign to prevent Congress from mothballing California military bases. . .

Stakes are high in San Diego County, home to 12 major military installations that contribute an estimated \$13.6 billion to the regional economy. About 100,000 Marines and sailors are stationed there. .

“We should have learned our lesson,” said [Leon] Panetta [former Clinton White House chief of staff], who was in Congress representing the Monterey Peninsula when Fort Ord was shuttered.

“If you don’t make a coordinated and well-funded effort to protect these bases, you are going to pay the price,” he said. . . .

A splintered California failed to put up a united defense during the first four rounds of base closures, which resulted in 29 bases lost or realigned, 93,000 jobs lost and an estimated \$9.6 billion hit on the economy. . .”

CLDA FUND-RAISING RESULTS

The Indian Wells Valley community continues its generosity in supporting the work of the CLDA. In the last two issues, we reported on corporate and individual contributions received from 29 September 2003 through 31 March 2004. The amount received from corporations was more than \$50,000. Since then, the corporate sponsors listed below have contributed an additional \$2,425:

Maturango Museum

High Sierra Fly Fisher

Systems Applications & Technologies

Tybrin Corporation

From 29 September 2003 to 31 March 2004, more than \$11,000 was contributed to the CLDA by private individuals. Since then, an additional \$1,845 has been contributed by these local China Lake supporters:

Elizabeth Babcock

Joette Chantler

Ann Kapernick

Sally Kennedy

Yvonne McCabe

David Mechtenberg

Mary Meyer Lundstrom

Carol Pearson

Barbara & Leonard Haugen

Dana & Jack Lyons

Additional contributors will be listed in the next edition of *NewsNotes*. All money raised is used to defray costs for travel, postage, and publications and to retain a Washington DC consultant. The many hours of work invested by the CLDA volunteers are entirely voluntary and uncompensated.

If you would like to volunteer time or money to support China Lake in BRAC 2005, please contact Bill Porter at (760) 446-1034, Phil Arnold at (760) 375-6389, or Jan Bennett at (760) 375-8331.

Our goal in *NewsNotes* is to inform you of the BRAC process as it progresses and of how we are doing in supporting China Lake’s future. We want *NewsNotes* to be interesting and useful to everyone who has a stake in the continued success of China Lake. Comments and suggestions from readers will be appreciated.