

Our forward air bases in Europe have become plump targets. The Air Force is looking at new ways to defend them, ride out an attack, and get back into action.

Fighting Under Attack

BY JOHN T. CORRELL, EDITOR IN CHIEF

AMERICAN air bases in Vietnam were harassed periodically by sapper raids and mortar fire. During the Tet offensive of 1968, Tan Son Nhut and Bien Hoa stood off enemy ground forces attacking in battalion strength. That was the worst of it, though, and even the Tet attacks were limited affairs, lasting less than a day.

Until recently, the Air Force did not worry much about operating from bases that were under all-out attack. There was some concern about forward locations in Germany, but those installations, too, were relatively secure. Before the era of the Su-24 Fencer and other late-model weapon systems, Soviet forces did not have the range or the accuracy to mount a serious deep-interdiction threat.

For a combination of reasons—including the longer reach of Soviet airpower—the Air Force has begun to think a great deal about the vulnerability of its bases. More than anything else, it was a 1985 exercise called "Salty Demo" that riveted official attention on the problem.

Salty Demo ran for two weeks at Spangdahlem AB, Germany, and simulated a bombing attack of moderate severity on the installation. Planners calculated the toll that

NATO interceptors and missiles would take on the Soviet bombers and what those that got through would be able to do to the base. "Damaged" signs were hung on buildings and equipment that were struck in the simulation. "Casualties" were taken out of action. Utilities lost in the scenario were no longer available for use in the exercise. For a special bit of realism, twelve craters were opened in the Spangdahlem alternate launch runway with explosives.

The results were a sobering demonstration of the synergistic chaos that ensues when everything goes wrong at the same time. Thirty-one percent of the base's personnel were casualties, half of them killed and nearly a third of the wounded unable to return to duty. There was considerable destruction and heavy damage to aircraft, vehicles, buildings, communications, and power and systems.

In the simulations, fires burned all over, and unexploded ordnance lay about everywhere. It was difficult to assess the damage accurately. Repair teams were short-handed and in some cases did not have the equipment and supplies they needed. The runway craters were a bigger problem than had



The Salty Demo exercise at Spangdahlem (above) created explosions in more ways than one. It delivered the message, loud and clear, that the air base, ground equipment, and such people as MSgt. Larry Dixon and SSgt. Fermin Zoilo of the civil engineers (right) are first-string members of the combat team.



been expected. Unlike clean-dug holes, they were jagged and surrounded by buckling. Chunks of debris had caused secondary damage.

The Lesson Sinks In

To address the shortcomings that Salty Demo revealed, the Air Force intensified its Air Base Operability program and intends to improve the ability of its combat bases to defend themselves, ride out an attack, recover from it, and get back into action.

Air Base Operability sections are being formed, all the way from the Air Staff down to bases in the European and Pacific combat theaters. New equipment is in development. Initiatives include such active and passive defenses as camouflage, concealment, deception, hardening and protection of facilities, explosive ordnance disposal, and the training of base personnel to augment the security police, civil engineers, and firefighters in an emergency. At a recent Air Base Operability roundtable put on by AFA's Aerospace Education Foundation, Tidal W. McCoy, Assistant Secretary of the Air Force for Readiness Support, said the priority of this problem has progressed from "urgent" to "critical."

The most significant change may be in the thinking of leaders and planners. Many of them now talk about "fighting the air base," a concept that regards the installation as a

warfighting asset akin to a weapon system instead of as incidental real estate. The new thinking also reconsiders traditional assumptions about how war in Europe might unfold.

The war may be five days old before the United States is aware that it has begun, Richard L. Kuiper of PSC, Inc., a former US air attaché in Moscow, told the roundtable audience. The opening step of the conflict could be introduction of biological or chemical substances into the water supply. Maj. Gen. George E. Ellis, USAF's Director of Engineering and Services, agreed. He said that bases generally pipe in their water from the outside community and may not know if enemy agents have tampered with it.

Soviet *Spetznaz* commando forces would put additional pressures on base defenses early in the fighting.

Mr. McCoy said there is growing opinion that the Soviets may employ airpower in the move-and-shoot style of Red artillery. Fixed facilities at Soviet air bases are austere, but tactical units are long on portable equipment and big trucks. This suggests their intention to keep moving the air base setup around, both for survivability and for operational advantage, as the attack proceeds.

"They plan on using our bases," Mr. McCoy said. "They don't really want to destroy them."

"Worst Case" in Perspective

At the same time, Mr. McCoy and other Air Force leaders point out that the Soviets stand little chance of delivering the full blow that "worst-case" estimates, taken in isolation, might predict. By concentrating their air strikes, sabotage, commando raids, and other measures, they could probably bring selected air bases to their knees. But wreaking sudden devastation on the entire theater would be much tougher.

"We don't operate one base—we operate a series of bases," Lt. Gen. Michael J. Dugan, USAF Deputy Chief of Staff for Plans and Operations, said at the roundtable. "I'm not ready to give the Soviets credit for getting away with all this against the whole system of bases."

Moreover, the Soviets would pay in lost efficiency if they used shoot-and-run tactics. "Their modern airplanes look like ours, are equipped like ours, and have to be maintained like ours," General Dugan said. This equipment requires care "that you're not going to get by hauling it through the woods. They certainly aren't going to get many sorties a day." The aircraft "will be difficult to find, but they won't be nearly so well defended if they have them out in these remote areas and move them around. The most difficult [targets] to attack are the well-defended main operating bases," he said.

Assuming the Soviets did take the base-hopping approach, US aircraft would probably focus the counterattack on fuel supplies, infrastructure, and other targets whose loss would inhibit operations, no matter where the enemy is based or how many enemy airplanes survive.

The Air Force's Air Base Operability objectives group into four categories: defending the bases, surviving the attack, recovering from it, and restoring capability to generate sorties in the aftermath.

Both the US and its European allies have been working hard to improve their air defenses. The Soviet attack would have to penetrate an upgraded and layered system of interceptor aircraft, surface-to-air missiles, and anti-aircraft guns. The bases will also be better prepared in the future for local defense.

"We must make certain that all of



Increasingly, the Air Force trains the way it would have to fight in wartime. This includes the sweaty realism of uncomfortable chemical suits. Exercise scenarios cover what happens on the ground as well as in the air.



The repair-and-recovery job, as brought to light in Salty Demo, was bigger than expected. The exercise also underscored that the primary response specialists—such as firefighters, security policemen, and civil engineers—must be augmented in their efforts to defend the base and put it back into operation after an attack.

our airmen are prepared to contribute to base recovery after an air attack and to defense of the base during ground attack," Mr. McCoy said earlier this year at an AFA Symposium. "We cannot afford to have the sortie generators standing around watching while fifty civil engineers fill holes in the runway or 150 security policemen repel a *Spetznaz* assault."

The bases will be better able to discover and track commando infiltrators when they get new sensors, now being developed. Some of these will be tested this year during the big Reforger exercise. "They've got visual lookers, sound lookers, heat lookers, and radar lookers," a headquarters officer in Europe says. "It's a whole integrated package."

Survival and Recovery

The number of casualties in Salty Demo made it clear that "you've got to get to a place for protection—not just jump in the woods and hide," says a planner working the problem. The Air Base Operability program envisions "defensive construction" of facilities, making them less vulnerable to chemical, biological, and bombing attack. This includes the Survivable Collective Protection System—dormitories sunk into the ground and covered with dirt and

grass. Each will allow about eighty people to rest and sleep between shifts of damage-repair duty. Some of these bunkers will be specially outfitted for medical care.

Communications and power lines will be more protected and routed away from the most likely areas for an enemy attack. This should increase the probability that base services essential to air operations will be available.

New chemical masks, with improved visibility and filters that are easier to replace, are being issued. Unfortunately, chemical suits are still as uncomfortable as ever. Planners say that protective clothing of the future will bring some relief.

The camouflage, concealment, and deception effort will seek to confuse the enemy with fake landing strips, dummy airplanes, netting, smoke, phony electronic signals, runways painted in earth tones, and other decoys. These measures would not pass a close inspection, but may fool a pilot rolling in fast after a long, hard ride through fire and flak. The Air Force conducted some tests and found that ten times out of fifteen, pilots went after decoy aircraft instead of the real ones.

Today, the damage-control teams sent out after an attack to survey the

base would report back by radio, a clumsy, trying process for people in chemical suits. The new way, now being tried, will be to punch numbers into handheld computers that contain a grid of the base and preformatted messages. This will be faster and much easier for the survey teams and has another advantage as well. The report goes to the command post in a data burst, which will be difficult for the enemy to monitor or jam.

Submunitions and unexploded ordnance would be strewn about in profusion after an attack. If disaster teams try to dispose of them one by one, giving them extensive individual attention, the job will consume too much time. Bases are receiving vehicles called ORACLEs (Ordnance Rapid Area Clearance). These are bulldozers with protected crew cabs and hardened blades. They push munitions off the runway so repairs can begin. An improvement, the MARV/SMUD (Mobile Armored Reconnaissance Vehicle/Standoff Munitions Disrupter) is on the way. The Air Force plans to buy more than 200 of these tank-like vehicles. Each mounts a .50-caliber machine gun that can detonate big bombs and unexploded ordnance.

Recovery efforts also include rapid runway repair—with big, precast concrete blocks that can be stockpiled or used as parking lots in peacetime—improved firefighting techniques, and better medical preparedness. Repair teams have new kits with the tools and materials they need—another change stimulated by Salty Demo.

Runway repair teams are getting more adept at their art, but planners still want every base to have alternate launch and recovery surfaces for backup. With portable equipment, aircraft could work from numerous "gas and go" sites in Europe. Tactical units have been exploring a variety of ways to taxi, tow, or haul aircraft to fields and strips that will do in a pinch.

The Air Force thinks it is on the road to improved air base operability and that hereafter it will be in better shape to handle a disruption like Salty Demo. The test comes in 1991, when a followup exercise called "Constant Demo" is scheduled to happen at Bitburg AB, Germany. ■