Moseley's Top Mission

In the second Gulf War, the air component's top-priority task was to prevent Iraq from using ballistic missiles and weapons of mass destruction.

“That was our No. 1 mission,” said Gen. T. Michael Moseley, Air Force vice chief of staff. Had there been an attack, it would have been a “strategically dislocating event,” he said, especially if Saddam Hussein had combined his missiles with chemical or biological warheads.

Moseley was the combined forces air component commander during much of Operation Enduring Freedom in Afghanistan and during Operation Iraqi Freedom. One year after the end of major combat operations in Iraq, Moseley spoke with Air Force Magazine about the conduct of the war, airpower’s role in it, and lessons learned.

In the first Gulf War, Scud missiles had proved unexpectedly effective as terror weapons. They were launched at civilian areas, and no one knew whether they carried chemical or biological agents. The “great Scud hunt” of that war pinned down coalition airpower resources that otherwise could have been hammering Iraqi fielded forces. In Gulf War II, Moseley hoped airpower would be able to contain that threat quickly.

He convinced Army Gen. Tommy R. Franks, commander of US Central Command, that the best defense was to find and destroy the missiles before they could deploy and shoot. Moseley noted, though, that, even if deployed, the missiles’ unique configuration and known operating limits would allow airpower to find and destroy them quickly.

Franks told Moseley, “OK. Your mission.” Moseley became the area air defense commander, supported by special operations teams from all members of the coalition.

During the period October 2002 through February 2003, Moseley’s team on four occasions practiced the Scud hunt at Nellis AFB, Nev. The hunters used an integrated approach that blended sensor aircraft, bombers, fighters, and special operations forces on the ground. They relied on the lessons of Operation Desert Storm and 12 subsequent years of technological and conceptual advances.

Moseley’s staff made an exhaustive study of Iraq’s previous use of mobile Scuds—range, targets, and launch locations, including the type of terrain that could support such launchers. With those data in hand, operational planners were able to significantly reduce the possible areas from which Scuds could be launched.

“It’s not an infinitely open problem, once you begin to scope this down,” Moseley said. Based on the results of the rehearsals, Moseley and his planners developed rules of engagement that created geographic areas, or kill boxes, within which coalition aircraft were free to attack anything they encountered.

The ROE included one supreme operating rule: “If you see one of these things, and it is erected, shoot it,” said Moseley. There were many “unknown unknowns,” he noted. There was no reliable intelligence on whether Iraq possessed any more Scuds or whether they would work, if they were on hand.

In the end, Saddam did not launch any Scuds. According to Moseley, Iraq apparently had no functional systems, “but we didn’t know that at the time.” Had there been such a threat, trained coalition forces would have handled it.

Moseley and his staff conducted many “what if” drills to anticipate possible moves and countermoves. In one scenario, Saddam salvoed the entire Iraqi Air Force of several hundred aircraft in a mass raid at the outset of the war. The planners, said Moseley, concluded “it would not be a showstopper.”

It would have “caused us some pain for 72 to 96 hours,” he said, but the coalition would have been able to “work through this.” To make certain he could deal with this threat, Moseley ordered in an extra dozen F-15Cs and additional British Tornado F3s for a possible large-scale air-to-air fight.

Who Killed the Republican Guard?

During OIF, much was made of the alleged “pause” in attacks on Iraqi forces when US ground troops ran into a blinding, week-long sandstorm. Moseley, however, said that coalition airpower did not let up on the Iraqis at all. Indeed, he believes that airpower was the chief reason that Iraq’s defenses crumbled so quickly.

The Republican Guard divisions were Iraq’s best-trained and best-equipped troops and were also the most loyal to Saddam. Sensor aircraft and satellites located them fairly quickly.

“The mission was to not let them dig in, to not let them engage the [US and coalition ground forces],” said Moseley. Beyond that, airpower was to prevent the Guard divisions from creating “fortress Baghdad.”

“From the very beginning, we struck Republican Guard
That didn’t mean that they couldn’t fight, but their ability to fight coherently and cohesively, acting on centralized instructions, had been destroyed, he added.

The sandstorm limited ground visibility to 30 feet, but, from above, satellites and especially E-8 Joint STARS radar airplanes could see through the sand and detect wheeled or tracked moving vehicles. The B-1B bomber’s moving target indicator radar mode—functioning much like a miniature Joint STARS—could also see vehicles on the move.

By integrating sensor data from these and other systems (such as Global Hawk reconnaissance drones), Moseley’s combined air operations center (CAOC) was able to catalog the locations of Iraq’s units.

“In the CAOC,” said Moseley, “we knew more about where the Iraqi forces were than the Iraqis did.”

Using Joint Direct Attack Munitions, which were oblivious to weather conditions because they homed in on surface coordinates, US aircraft pounded the Republican Guard relentlessly, Moseley noted.

He said that coalition ground forces had “some serious fights, ... but they did not fight the Republican Guard as a single entity.”

Moseley said he had a handshake deal with Army Lt. Gen. David D. McKiernan, the ground forces commander, that McKiernan’s troops would never have to fight a goal was to be able to use airpower within city limits and not destroy the city in the process.

Moseley said he told McKiernan, “If you have to fight in that city, we’ll fight in that city,” meaning ground forces would not be forced to handle urban warfare without effective air support. Moseley attributed the concept of urban close air support to a Marine major working on his staff. (See “Marine Air in the Mainstream,” June, p. 60.)

The plan developed by Moseley and his staff called for stacking a wide variety of aircraft over Baghdad. Each aircraft would have different weaponry, meaning something would be available for any given situation. The menu of weapons ranged from 5,000-pound bunker-buster bombs down to 500-pound inert weapons with seeker heads but no explosives. This last weapon could effectively collapse a small building by the sheer kinetic force of its fall, but it would not cause an explosion. Nearby structures would be largely unaffected.

A single B-1B cannot yet carry within its three bomb bays “10 or 15 kinds of munitions” that could be fused in the air, Moseley said, but the technology exists and will be tested soon, not just on bombers but on fighters as well.

For OIF, Moseley had to fly the catalog of munitions on a variety of platforms. The CAOC staff developed a means to “keep track of those weapons.” They knew exactly which aircraft had what weapons and the position of that airplane in the stack. Ground commanders could call on virtually any type of explosive or kinetic effect and quickly receive it simply by sending a request to the CAOC, said Moseley.

In prosecuting urban operations, the first step was to gain air superiority, Moseley noted.

“Often, in the joint world, dismiss the notion of just how tough it is to get air superiority,” he said, “but you’ve got to have it so you can have all these [other] things.”

Doing Away With BDA

One supposed lesson learned from OIF is that the US does not do a good job at bomb damage assessment. The reality, Moseley said, is that the traditional practice of BDA no longer makes sense. The Air Force is focused on achieving certain effects rather than certain levels of destruction, he noted, suggesting that a new metric be developed.

Moseley explained that traditional BDA has been “almost a civil engineering function,” which asked, “Did the building blow up? Did you crater the command
center? Did you crater the runway?” Such questions must be asked when the conflict is over, but the answers are of little use in a fast-moving campaign, where it’s necessary to know whether a target must be struck again.

Moseley said the real question is, “Did we create the effect we were looking for?” That effect might be stopping the Iraqi Air Force from flying, taking the Ministry of Information off the air, or eliminating the central planning capability of the Ministry of Defense.

Those are tougher questions, he said. “We really need to think in terms of desired effect or effect analysis,” said Moseley.

USAF wants to automate as much of the BDA process as possible, said Moseley. The goal is to create a machine-to-machine process whereby a database will “maintain custody” of a target and automatically note whether a certain munition has been used against it and whether the target is no longer active. The target would disappear from the CAOC “data wall” when it has been conclusively taken out of action, but humans should not have to make that subjective judgment, he emphasized.

Such a process is not that far-fetched. Many new munitions have optical terminal seekers that show whether they hit the target and fused at the right moment. Such data is a powerful indicator that a target has been destroyed.

Moseley also wants earlier capture of pilot debriefs. Right now, debriefings may wait till the end of a day, after several sorties against similar targets, by which time the pilot may not be able to remember what was hit. In the case of a B-2, the debrief doesn’t occur until the pilot returns to Whiteman AFB, Mo.

Moseley believes there must be “a better way to stream that information.” He suggested that perhaps the debrief could be done on the return tanker trip or with a pod on the airplane that records strike information and passes it directly to the CAOC.

Automating the Data Wall

For Iraqi Freedom, Moseley’s staff in the combined air operations center at Prince Sultan AB, Saudi Arabia, had a data wall, currently a set of screens, that provided information about the battlespace.

One screen was devoted to weather over the region. Another showed the location of friendly ground forces. Yet another displayed the air picture, with moving symbols indicating aircraft en route to and from targets, as well as intelligence-surveillance-reconnaissance aircraft and aerial refuelers.

“You’re looking at a scheduling screen,” Moseley explained, “where daylight and dark are depicted, where thermal crossovers are depicted, or where any special events are depicted. ... At any one time, you can look and see who’s next into the airspace, how long do they have, where are the tankers.”

The Air Force would like to automate many of the functions now performed by people looking at screens and verbally issuing orders based on what they see. Example: During the rescue of downed airman, a CAOC operator would be able to “run a cursor out over that spot” and let machines order up the right combination of rescue forces, including helicopters, fighters, and tankers.

“We’re getting closer to that,” Moseley said.

He added that, in an upcoming joint experiment/exercise, “we’re going to be able to demonstrate that technology.”

He also believes more effort needs to be put into “marrying information operations and information warfare,” Air Force leaders will not discuss this in much detail because they don’t want to give clues to enemies about defensive and offensive computer or information attacks. However, Moseley did say that computers, deception, and psychological operations together form one of the two new pillars of modern warfare. “That becomes your nonkinetic pillar,” he said. “The kinetic pillar we understand very well.”

Data Links: Keys to the Future

It is axiomatic that speed is the key to dealing with targets that reveal themselves only briefly. Moseley said he is looking forward to the day when the entire force is equipped with digital data links permitting “speed of light” information flow between shooters and the CAOC. He wants to reduce voice communications, which are time-consuming and error-prone. Such a capability isn’t that far off, he said.

The new technology will eliminate the need for “grease pencils on maps” that “take hours to display” and will let the CAOC rapidly swing aircraft back and forth between types of missions, noted Moseley. Strategic attack may turn into close air support at a touch of a button from the CAOC—without any delays. Precise target coordinates, way points, even maps will be transferred instantly.

Moseley emphasized that this airpower data link advance also must be integrated with ground forces so that everyone has “a single, common operating picture.”

It’s a misconception, he added, that mere “coordination” will win future fights. The various forces involved must be integrated, Moseley said.

The “integration of the components” for OIF “was better than it’s ever been,” he added, but “you have to be looking at the same picture.” The common operating picture must allow the land component commander to understand the priorities of the air component commander, and vice versa, said Moseley.

“You win wars with an integrated effort, because each of us brings an interesting ... and exclusive set of joint tools to the combatant commander,” asserted Moseley.

“Each of those tools has limits and capabilities, so the art form in this is to minimize the deficiencies ... and maximize the operational utility. One way to do that is to have a trusting relationship amongst the components and the combatant commander.”