

USAF is already thinking about the capabilities it will field thirty years from now.

The Air Force Today and Tomorrow

By John A. Tirpak, Senior Editor

Secretary Widnall

The New Way of War

DON'T wait for the "coming" Revolution in Military Affairs, because it's already happened, and the Air Force led it, Air Force Secretary Sheila E. Widnall told attendees at AFA's Los Angeles symposium in October.

"There already was a revolution," Secretary Widnall asserted. "Warfare changed. In short, 'Been there; done that.'"

The Air Force, she said, anticipated the new way of war—exemplified by "stealth, global mobility, long-range precision strike, information warfare, and the effective use of space." The Air Force was ready for it because of "vision, systematic planning and investing in our people, and the right modernization programs," Secretary Widnall observed. "It . . . was no accident, and it was not dumb luck."

Not content to rest on its Persian Gulf War and Cold War laurels, USAF is shaping its vision for the next thirty years in an effort to anticipate future revolutions in warfare and to be ready for threats that may not even exist yet.

"In the last year alone, we have published 'Global Presence,' distributed Air Force Executive Guidance, and worked on [a study called] 'Air Force 2020' to help us focus beyond the horizon," she said. By the end of 1995, the Secretary added, the Air Force Scientific Advisory Board was expected to complete a study called "New World Vistas," which, she said, "will provide a glimpse of the major technologies affecting air- and space-power for the next several decades."

Secretary Widnall noted the Air Force's establishment of a temporary position—the special assistant to the chief of staff for Long-Range Planning—"to focus and synthesize our efforts at molding ourselves for the next century."

The planning is being done with an unwavering eye on USAF's "core competencies," meaning air superiority, space superiority, precision weapons employment, global mobility, and information dominance, she continued.

Each of the core competencies has a hardware program or programs associated with it, "so we can turn those plans into weapons for future warfighters," the Secretary explained. In



Secretary Widnall



General Fogleman



General Ralston



General Rutherford



Acting Assistant Secretary Druyun



General Ashy



General Lorber

air superiority, for example, it's the F-22 fighter; in space, it's the Space-based Infrared system, the Evolved Expendable Launch Vehicle, Milstar, and the Global Positioning System.

For future precision employment, the Joint Direct Attack Munition (JDAM) is an "acquisition success story" that will be ready ahead of schedule and at a far lower cost than expected, she said. In global mobility, the C-17 has made "the comeback of the decade," she asserted. In information dominance, the first E-8 Joint Surveillance and Target Attack Radar System (Joint STARS) squadron will be operational in less than two years. The first Air Force unmanned aerial vehicle (UAV) squadron has been established at Nellis AFB, Nev., the Secretary observed, and USAF "has just published 'Cornerstones of Information Warfare,' laying the groundwork for a new paradigm in information operations."

Among the "seeds" being planted for future capability is the airborne laser (ABL). Secretary Widnall said the ABL may be in the same "league" with the jet engine, stealth, the microchip, and the atomic bomb as a breakthrough that could "revolution-

**USAF's success in coping with the Revolution in Military Affairs "was no accident, and it was not dumb luck."—
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ize . . . our operational concepts, tactics, and strategies."

The ABL "attacks at the speed of light, costs about \$1,000 per shot, will kill chemical and biological weapons over enemy territory, and frees up many of our attack aircraft from 'Scud-hunting' duty for other war-fighting requirements," she explained. "The potential is staggering." [See *The Airborne Laser*, p. 54.]

Such seeds will never grow, how-

ever, if they are "strangled by the weeds of obsolescent procurement practices, debilitating acquisition regs, and unnecessary oversight," Secretary Widnall asserted.

"We've attacked acquisition reform with a vengeance," she said, cutting paperwork and unneeded steps wherever possible. She proudly noted that sixty-eight percent of acquisition policy documents or policies have been eliminated, and she detailed a long list of programs on which paperwork, milspecs, or personnel have been reduced or eliminated completely, saving money or permitting the program in question to be accelerated.

Secretary Widnall also asked for industry's help in eliminating the barriers between the "military" and "commercial" industrial bases. She asserted that "it is clear this nation can only afford a defense[-specific] industrial base in those areas where there is no commercial activity."

General Fogleman

The Air Force in 2025

It is time for the Air Force to "take some bearings" on where it is and what its priorities ought to be for the coming years, Air Force Chief of Staff Gen. Ronald R. Fogleman told symposium attendees.

"This is an unusual time in our history," he said, "because it offers a chance at a period of relative stability," given that the American defense drawdown is "largely over" and that the United States faces "no direct threats to our national security."

He foresees no further base closures until after the turn of the century and feels that the sorting out of roles and missions among the services has largely been accomplished. Moreover, the American people are "supportive of defense," and the long decline in military spending appears to be at "pause."

Though the contraction in the uniformed force will be completed over the next two years without further "catastrophic" involuntary separations, the news is not as good in the Air Force's civilian work force. There, he said, USAF has already taken most of the "easy" cuts—workers nearing retirement or willing to accept incentive packages—but 30,000 more will have to go "over the next couple of

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General Fogleman

years." [See *Civilian Drawdown, Hard and Fast*, p. 28.]

Though it appears that funding has finally stabilized, General Fogleman warned his listeners not to get too comfortable. Within the next two years, sharp cuts in nondefense portions of the federal budget will be felt, and then the service will find out "how well the support . . . for our defense program being shown by the Congress today" will be maintained.

Still, he noted, "the opportunity exists" to cast an unusually penetrating look into the emerging technologies and capabilities that will give the Air Force its future edge.

General Fogleman said that maintaining the stability of the force will be one of his top priorities because, without it, "we will be captured by near-term priorities," and "it will be very difficult" to do the long-range planning he feels is so crucial.

General Fogleman chartered a new study called "Air Force 2025" to look at "alternative futures . . . and possible changes in doctrine," he noted. "My directive to them is to engage in maverick, 'out-of-the-box' thinking." This study and Secretary Widnall's "New World Vistas" panel were chartered to "develop a truly independent, futuristic view of how the exponential rate of technological change will shape the twenty-first-century Air Force." A counterpart group has been installed on the Air Staff to accelerate the adoption of revolutionary new concepts, "to speed their development, and to get

them into the field quickly without the laborious staffing process," General Fogleman reported. He has appointed Maj. Gen. John A. Gordon to be the temporary long-range planning "czar" on the Chief's staff "to integrate all the great work that's under way."

Overall, the General said, the Air Force must "avoid attempts to package airpower into neat little stovepipes based on yesterday's thinking" and must draw away from such obsolescent concepts as "strategic" and "tactical" airpower.

"All these attempts to put airpower into boxes, . . . in the end, inhibit our inherent flexibility. We've made this mistake before, and I'm determined that we won't repeat it on my watch," General Fogleman asserted.

The current period of stability is also a time to "tell the Air Force story," he added, and explain to the American people and other services "both the capabilities and limitations of air- and spacepower."

General Fogleman was asked whether "Global Reach, Global Power," USAF's basic blueprint, should be updated to reflect the concepts of global presence and information warfare. He answered, "The fact of the matter is . . . the Air Staff has rewritten 'Global Reach, Global Power,' but I am reluctant at this time to have that published."

The "core competencies" outlined in the white paper "drove the reorganization and the modernization plan," General Fogleman explained. "I would like to get us focused on those core capabilities, . . . augmented by information warfare, and not get confused with a new document, with a new title." He suggested that the new document will be released "when we . . . complete our long-range planning initiative." Once that is accomplished, "and we have a corporate buy-in on this, then we will come out with a new doctrinal manual."

General Fogleman noted that the white paper, published in 1990 and updated in 1992, had "absolutely no mention of information warfare, which shows you how rapidly this has burst onto the scene."

General Ashy

Space in the Mainstream

Making access to space assets "rou-

tine and reliable" for warfighters is the current focus of US Space Command, Gen. Joseph W. Ashy, the commander in chief of US Space Command and NORAD and commander of Air Force Space Command, told symposium attendees.

The twin guidelines in making this happen are "normalization" and "operationalization" of Space Command's resources and organizations, General Ashy said.

"Normalization" takes the form of removing the supersecret mystique from space operations and making it a career field parallel to the rest of the Air Force.

"We do not want to be a separate, distinctive force," he maintained.

These changes include giving assignment preference to those who finish at the top of their classes, much as top pilots can pick their airplane when they graduate from undergraduate pilot training. It involves offering "more career-broadening opportunities and choices" in moving back and forth between the missile and space fields. It also entails providing more initial instruction, so that they arrive at their duty station ready to go to work, rather than ready for more training, General Ashy said.

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area," he acknowledged. A program is already in place to beef up initial training, "so our people can reach their units near-mission-ready."

Another "normalizing" step is the creation of user manuals for missile and space crews. "What we have now is tech data, but we can improve

these products to make them more user-friendly to our crews," General Ashy said.

Though the emphasis in the past has been on training personnel "on the actual equipment" they will use, "we have discovered that we have some voids" in training that can be filled by more extensive groundbased training systems, including simulators, "which we don't have now."

Moreover, General Ashy said his command has moved to "decentralize authority" and give young officers a chance "to command and supervise at earlier stages in their careers. This will make us stronger."

Concurrently, Space Command is focused on making "space support understandable, usable, and accessible" to the warfighters. Toward that end, General Ashy wants to merge the graduate schools in space warfare with the weapons courses at Nellis AFB, Nev., "much like we did with air weapons controllers and the intelligence" career fields.

"Space warfare capabilities are key to winning in today's modern battlespace, and we need to better integrate our thinking on this," the General said.

He also reported that a new system called the Theater Support Operations Cell has been fielded. It gives regional CINCs an unprecedented view and understanding of the space assets available to them, "which will lead to the use of space in a routine way," he said.

Meanwhile, space launches are getting more on a schedule that is agreed to by the "shooter, customer, builder, and acquirer" and the "customers are satisfied," he reported.

General Ashy provided a snapshot of some promising new programs that will further make space assets more usable down to the most basic levels of the service. These include:

- Project Hook, which allows a downed airman to send a short-burst, low-probability-of-intercept message to rescuers, including a Global Positioning System fix.

- Project Strike, which feeds real-time threat, weather, sensor, and targeting data directly into the cockpits of F-15Es and B-1Bs.

- Project Spectrum, which exploits multisource imagery from both commercial and military sources in mission planning.

- Project Nike, which conveys in-

telligence data directly to warfighters at remote, austere locations.

■ **Combat Track**, which allows the constant tracking of transports and their cargo toward “end-to-end, depot-to-foxhole visibility of military assets,” General Ashy said.

■ **Project High Ground**, which gives tactical situational awareness to deployed elements, enhancing the effectiveness of surveillance and battle-management aircraft.

General Lorber

China Looms Large

Adjust your ideas about the Pacific Rim, because they are probably out of date, Gen. John G. Lorber, commander of Pacific Air Forces, told AFA symposium attendees.

“There are no more rickshaws and dirty streets,” he said. “The economic growth is unbelievable. . . . The standard of living is really going up.”

With explosive economic growth in the Pacific has come economic clout—and the desire for military clout to go with it, General Lorber said.

“They’re not looking for our old castoffs. . . . They have the money for new systems,” such as F-16s and Advanced Medium-Range Air-to-Air Missile (AMRAAM), the General said. Foreign military sales have always been a key tool in influencing the region, but the “reactive” system of dealing with requests for hardware has not kept up with the sophistication or changing realities there, he said.

“We need to have a program that allows us . . . to be proactive . . . when they start bringing money to the table.” Decisions about whether certain types of hardware will be sold should be made before the request is received, General Lorber said.

In addition to buying more sophisticated systems, “they are also . . . finally understanding airpower,” and the US has taken a role, through exercises and military-to-military contacts, of teaching its friends in the region “how to set up a [Joint Force Air Component Commander]” and other modern aspects of air warfare.

General Lorber provided capsule summaries of the military situation faced by most of the forty nations under his area of operations. The

nation bearing the most watching, he said, is North Korea, which he described as “an economic basket case.” It will have “a window of opportunity” lasting perhaps one or two more years before the government there “destroys itself” and the military “dissipates to the point where it cannot really attack us.” In the

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General Lorber

meantime, all sectors of the North Korean economy are being robbed to sustain the military, he said.

“All the nations in the region see China as the threat of the future, and they’re very concerned with a building military capability in China,” he continued. China has made some unsettling advances in weapon guidance—General Lorber cited the Chinese use of GPS on one of their ballistic missiles—and “now they’re getting to the position where they can get fairly good . . . accuracy with them.” He added, though, that “it’s probably ten years away” before the Chinese develop true precision munitions.

He also revealed that there is a “bigger deal in the works” as a follow-on to China’s recent purchase of Russian Su-27 “Flankers.”

In exercises with Malaysia, which has Russian MiG-29s, General Lorber said he came away impressed.

“We found out the MiG-29 is much more of an airplane than we expected it to be. We flew with a clean F-15, and the MiG-29 stayed right with us.” He also said the MiG-29 is so similar in appearance to the F-15 at a distance that it could pose a problem in getting “a visual ID when we have to go into a fight with those airplanes.”

In Russia, which the General re-

minded attendees is also a Pacific Rim country, air force leaders are “trying to keep their airplanes [and] force structure up, but they’re not able to maintain them or keep them up in flying condition.”

General Lorber said that exercises with allies have tended to concentrate on Thailand, Korea, and Japan and that, in the near future, “we’re going to spread out the exercises a bit” with other countries. He also said there will be more military-to-military contacts around the area, especially with “countries we haven’t visited in ages.”

The Pacific Rim is “where our economic future is,” General Lorber said, adding that it will be increasingly important to “remain engaged” there and maintain good relations with all its diverse nations, some of which “don’t get along.”

General Ralston

Learning From the Past

Air Combat Command won’t make the same “disastrous” choices about its force structure that the service made when it last faced severe fiscal restraints, ACC Commander Gen. Joseph W. Ralston asserted.

In the post-Vietnam drawdown, the Air Force held onto every base and squadron, while its budget “just flat would not support that,” he said.

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“We have to divest ourselves of . . . older systems that are expensive to maintain and operate.”—

General Ralston

parts,” and it was a “disastrous set of choices,” he added. Pilots “knew they were not combat-ready, and they got out in great numbers.” Meanwhile, maintenance people were “demoralized, and retention was bad.”

Squadron commanders at the time, General Ralston among them, resolved that if they were "ever in a position of senior leadership, we would make different choices," such as closing bases and cutting force structure. But whatever force structure remained would be provided "the flying hours and spare parts that it takes to be truly combat-ready. We would rather have one squadron where we are truly combat-ready than to have ten sick ones on the books," he asserted.

The cuts made in the last five years—half the fighters, two-thirds of the bomber force, and a third of bases—"have not been without pain," General Ralston acknowledged. Operating tempo has remained high throughout the drawdown, and, ironically, the constant deployments to world hot spots have made it difficult for flying crews to get combat training.

Sometimes the decisions to eliminate force structure are hard, General Ralston said, but sometimes they are "obvious." With regard to the EF-111 Raven versus the Navy's EA-6B Prowler, General Ralston said it would have cost \$1.5 billion over five years to keep twenty-four Ravens flying, each of which has an average age of thirty years. The Prowler, by contrast, "is a much younger airframe," averaging twelve years, and the Navy has 127 of them, making for a more useful fleet.

He also went to Air Force threat-simulation crews at Nellis AFB, who confessed to him that the EA-6B "gave them a much harder time" as a jammer than the EF-111 did.

"We have to divest ourselves of those older systems that are expensive to maintain and operate" and are less capable than alternatives, he declared.

The F-4G "Wild Weasel," which has "served us well," has been replaced by Block 50 F-16s with the High-Speed Antiradiation Missile Targeting System. The F-16 HTS "has tremendous capabilities over the F-4: longer range, more loiter, greater maneuverability, greater self-protection capability with the AMRAAM, greater sensitivity" with the HTS, General Ralston asserted. "The field of view is not 360° the way the F-4 Wild Weasel was," he conceded, "but you can work around that with tactics."

The Civil Reserve Air Fleet "is a great deal for America and the airlines."—

General Rutherford

The Air Force is still two years away from initial operational capability (IOC) with the E-8 Joint STARS—despite launching the system in 1985 and using a developmental version to grand effect in the Gulf War—because "we are still screwing around testing it," General Ralston said, complaining bitterly about the long time it takes to get a new weapon through the acquisition system.

He compared Joint STARS and the F-22—which will have taken more than twenty years from contract signing to IOC—to the F-117, which went from drawing board to IOC in four years. The only difference between the F-117 and F-22 programs "was not technology, and not dollars. It was the acquisition rules," General Ralston maintained. This, he said, "is the most compelling argument I can make for acquisition reform."

He also said that while the Air Force and Marine Corps are "100 percent in agreement" on their requirements for the next strike fighter—in terms of range, payload, stealth, and price—"we still have a way to go with the Navy" toward harmonizing requirements. The Navy, he said, probably needs a larger and stealthier aircraft, which the Air Force "cannot afford in the numbers we need: thousands."

General Rutherford

More Than the C-17

"The weight of the paperwork finally equals the weight of the air-

plane, so it must be time to make a decision and get on with the program," Gen. Robert L. Rutherford, head of both Air Mobility Command and US Transportation Command, joked at the AFA conference.

Addressing the symposium on the eve of the C-17/Nondevelopmental Airlift Aircraft decision, General Rutherford detailed a long list of studies and analyses conducted to provide the Defense Acquisition Board with all the information it would need to decide whether to proceed with the planned C-17 Globemaster III buy of 120 aircraft or opt for a mix of C-17s and either 747-400s or C-5D Galaxies.

In early November, the decision came down for the full buy of 120 C-17s, but final decisions on airlift capability beyond that will wait until this spring.

General Rutherford explained the results of the Mobility Requirements Study/Bottom-Up Review Update (MRS BURU) and Strategic Airlift Force-Mix Analysis (SAFMA).

"All these acronyms," he reported, "identified a requirement for between 49.4 million and 51.8 million ton-miles a day" in airlift capability, comparable to moving all the people of Austin, Tex., and their personal effects in less than ninety days. Currently, AMC possesses a capability for forty-eight million ton-miles a day "at maximum effort."

The MRS BURU assumed some warning time and a full call-up of both the Civil Reserve Air Fleet (CRAF) and the Air Force Reserve. The SAFMA involved a "very sophisticated airlift model" developed by the Institute for Defense Analyses and the Office of the Secretary of Defense (OSD) and run on a Cray supercomputer.

"We then negotiated ready-to-sign contracts for the C-17 and the NDAA, then used that cost data to compute twenty-five-year life-cycle costs" provided by the Air Force and validated by OSD, General Rutherford explained.

This was coupled with the results of the thirty-day reliability, maintainability, and availability evaluation run on the C-17 during the summer—in which it scored a "99.2 percent departure rate, . . . surpassing our most optimistic projections."

After fourteen years of work on a C-141 StarLifter replacement, "it's

about time" a decision was made, General Rutherford asserted.

He acknowledged that the C-17 was not the answer to all of the nation's mobility deficiencies and pitched for completion of various upgrades to the C-5, C-141, and KC-135 Stratotanker fleets to keep them "viable" while the C-17s are delivered.

Under current plans, the last C-141 will retire in 2006, the General reported. The fleet is old and fatigued, and "we are managing them by tail number for now," assigning missions to airplanes, based on the number and type of hours they've flown and the degree of problems they have. Some "will be transferred to the [Guard and Reserve] to extend their life."

Other key modifications include engine and landing gear enhancements for the C-5, purchase of cargo rollers for KC-135s, and avionics updates throughout the cargo fleet.

He noted that CRAF, which provides 260 wide-body aircraft in an emergency, represents a third of USTRANSCOM's air cargo capability and ninety percent of its passenger capability, remaining the most vital aspect of the airlift force.

"CRAF is a great deal for America and the airlines," General Rutherford said. Over the past three years, efforts have been made to boost the business given to CRAF participants to \$1.4 billion annually, "and we are in the final stages of a program that will allow CRAF people to use DoD facilities," he reported.

Acting Assistant Secretary Druyun

Guerrilla War on Waste

If the Air Force is to afford all the new systems it must have for the next century, the service must wage a "guerrilla war" against wasteful contracting and management practices, said Darleen A. Druyun, the service's acting assistant secretary for Acquisition.

"Future force modernization cannot be accomplished unless we first reform Air Force acquisition practices, procedures, and principles," Ms. Druyun said. The need to reform is urgent, she noted, because the Air Force's "investment spending" in new systems accounts for only one-third of total spending, compared with one-half in 1985, when the over-

all budget was much higher. More "hidden costs" in contracting and management must be exposed, and more real capability squeezed from every dollar, she said.

She exhorted the contractors in the audience to become "acquisition warriors" in the crusade against wasteful practices, rather than "whiners or wimps" who merely complain about unwieldy programs without doing anything to fix them.

Ms. Druyun also warned that those who stubbornly resist the streamlin-

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Ms. Druyun

ing efforts being applied will be swept away, along with other outdated elements of the acquisition bureaucracy.

The Air Force has had stellar success in applying basic principles of acquisition reform staked out by Defense Secretary William J. Perry in 1993: eliminating military specifications and standards, creating government-contractor relationships, reducing program cycle time, and treating cost as an independent variable in development programs.

Pilot programs putting these ideas into practice have resulted in remarkable achievements, permitting the services to do things "better, faster, and cheaper," Ms. Druyun said. By far, the big cost elements are "people costs and paper costs."

Number one on her "hit parade" of successes is the Joint Direct Attack Munition (JDAM), a bomb guidance kit, which has realized extensive savings in time and money by using commercial practices instead of "the old, rigid acquisition system."

She cited the reduction of military standards or specifications on JDAM

from eighty-seven to zero, use of a two-page statement of objectives rather than the original 137-page statement of work, and cutting the Contract Data Requirements List from 243 items to twenty-nine, thus "tailoring the real information need to the specified program elements."

Also implemented was a "carrot-and-stick" approach to contracting, which rewards the contractor for good performance by reducing oversight—"staying out of the contractor's hair"—and guaranteeing a long-term program commitment. The "stick" was the promise that "maximum oversight" would be restored if performance slipped, and JDAM prime contractor McDonnell Douglas would have to establish a second source—its own competition—at no cost to the government.

The benefits were impressive, Ms. Druyun asserted.

"The warranty was increased from five years to twenty," she said. Simplification of the process allowed the System Program Office to cut its staff from seventy to forty, "developmental funds were slashed from \$380 million to \$310 million, . . . and, best of all, the unit price was reduced from \$68,000 [per kit] to \$18,000 [per kit]."

The streamlining saved not only money—\$1.57 billion—but also time. "Developmental time went from forty-six to thirty months, and production time went from fifteen to eleven years," Ms. Druyun reported. The JDAM—which provides precision strike capability at low cost—will be in the hands of the strike forces in 1997 rather than in 1999 or later.

Ms. Druyun offered a similar success story on the Milstar satellite system, which previously had been an unwieldy affair with too much government oversight and too much red tape. Costs have been cut by \$236 million, and much time has been saved.

"I've had folks tell me you can't take an existing program and go back and change that contract," she said, "and I have news for you: You can, you should, you must."

The "lean, mean Air Force of the next decade does not have room for the oversize acquisition corps of the 1980s," she asserted, saying she wants to halve the size of program offices over the next five years. "I believe we can do it." ■