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AQ/AFMC/IL Strategic Planning Offsite.....Page 2

The AQ/AFMC/IL Strategic Planning Offsite was held August 22-24, 2000, in Warrenton, Virginia. At the conference, the three organizations agreed upon a common set of goals and mission—essential tasks that will form the foundation for coordinated objectives and actions.

Program Instability—Is There a Cure?.....Page 2

Program instability—caused by changing requirements and funding during execution—is one of the major challenges facing acquisition reform. Find out how the Air Force is using strategic planning to combat program instability.

What's News?.....Page 3

Read about the 17th Annual Department of Defense Logistics Conference, the American Institute of Aeronautics and Astronautics Conference, the Air Force's new strategy for managing the space program, and much more.

Learning from Nature: Chaos to Self-Organization.....Page 4

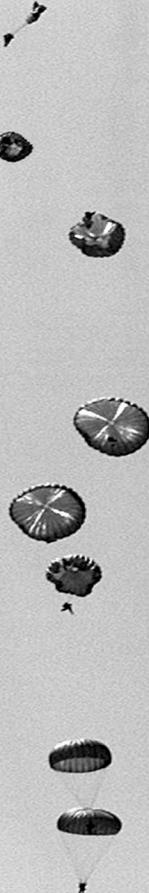
Apply the principles of chaos theory and self-organization to your organization to achieve a new kind of order—one that is able to meet the challenges of the 21st century.

HAF 2002 Achieves Great Successes.....Page 5

Learn about the successes resulting from Headquarters Air Force (HAF) 2002, a proactive change and improvement effort being led by the Secretary of the Air Force and the Chief of Staff of the Air Force.

Task Force Examines Workforce Challenges.....Page 6

More than 50 percent of the civilian acquisition workforce will be eligible for retirement by 2005. Read about the Acquisition 2005 Task Force, established to combat the talent drain and meet workforce challenges.



AQ/AFMC/IL Strategic Planning Offsite

By Mr. John R. Clark, SAF/AQX

Dr. Lawrence J. Delaney, Assistant Secretary of the Air Force (Acquisition), Gen Lester L. Lyles, Commander, Air Force Materiel Command, and Lt Gen Michael E. Zettler, Deputy Chief of Staff, Installations and Logistics, co-hosted the first AQ/AFMC/IL Strategic Planning Offsite at the Airlie Center in Warrenton, Virginia, from August 22-24, 2000. The offsite brought together the leadership of the three acquisition and sustainment communities to strengthen their partnership and to improve the weapons system life cycle support to the warfighter. At the conference, the three organizations agreed upon a set of common goals and mission-essential tasks that will form the foundation for coordinated objectives and actions. Some examples of actions being pursued include

management structure review, institution of cross-cutting processes and programs, and workforce development. The AQ/AFMC/IL Integrated Product Teams have been tasked to implement these objectives and actions and will report to the Senior Level Review Team composed of Lt Gen Stephen B. Plummer, Principal Deputy Assistant Secretary of the Air Force (Acquisition), Lt Gen Charles H. Coolidge, Deputy Commander, Air Force Materiel Command, Mrs. Darleen A. Druyun, Principal Deputy Assistant Secretary of the Air Force (Acquisition and Management), and Mr. Ronald L. Orr, Assistant Deputy Chief of Staff for Installations and Logistics. A follow-on offsite will be held this fall with the goal of publishing an integrated strategic plan by the end of the year. □

Program Instability—Is There a Cure?

By Lt Col James A. Hubert, USAFE/XPXS

Word on campus is the biggest challenge in acquisition reform is program instability. According to program managers, this instability is a result of changing requirements and funding during execution. Although the sources of instability cannot be completely eliminated, their impact can be reduced. One approach to finding a solution is to develop a living plan, as part of an integrated Air Force resource allocation process. The plan would account for uncertainty, incorporate the value of time, address affordability over time, and be based on total Air Force capability delivered to the warfighter. As a result, a truly living plan can reduce the cost of instability through the use of more effective decision-making.

Can it be done? A tool known as “strategic planning” has become the answer for industry and is currently the focus of Air Force attempts to improve. Albeit simple in concept, it requires a sustained commitment in order to succeed. You have to define who you are, where you are today, where you want to be in 3-5 years, and how you are going to get there. Moreover, you must have a clear concept of who your customer is, what your customer needs, what your product is, and how its value can be measured.

During CORONA Fall 1999, Gen G. S. Martin (formerly the Principal Deputy Assistant Secretary (Acquisition)) and Lt Gen Roger DeKok (formerly Deputy Chief of Staff for Plans & Programs) outlined three key elements required to

implement strategic planning. First, we must use the Aerospace Expeditionary Force (AEF) as the basic unit for measuring value to our customer, the warfighting CINC. To do this, we need to know what capability we can provide today, then set goals for the capability we want to provide in the future. This requires quantifying capability in discrete areas that can be tied to effects. While no scheme is perfect, we must measure our ability to engage targets across the spectrum of conflict at any time and place of our choosing. In addition to these capabilities for achieving desired effects, we need to clearly define and measure our support infrastructure and other key enablers. Just measuring these abilities is difficult enough, but we must also account for the cost of maintaining and increasing them.

Second, we must develop a living plan for the allocation of our Total Obligation Authority (TOA). This plan must be based on the most likely future funding profiles and must extend from the present toward our vision. The timeframe must be long enough to show the effects of fielding future systems and to provide a conceptual framework for S&T decisions. The plan would include a decision space (alternative decision points and rules for making them), but not one to be rigidly followed. It would also provide guideposts to help make decisions and monitor progress.

(Continued on page 8)

What's News?

17th Annual DoD Logistics Conference

The 17th annual Department of Defense Logistics Conference, sponsored by the National Defense Industrial Association's Logistics Management Committee and the Deputy Under Secretary of Defense (Logistics and Material Readiness), will be held on March 5-8, 2001, in San Antonio, Texas. This year's focus is Revitalizing America's Defense, and topics will include logistics, acquisition, and financial reform.

For more information on this conference, visit <http://www.ndia.org/events/brochure/173/173.htm>.

Air Force Articulates Strategy for Managing Space Program

In case you missed it, the July 2000 issue of National Defense Magazine features Sandra I. Erwin's article on the Air Force and its strategies for remaining the manager of the space program. In her article, Erwin mentions how Maj Gen

Brian A. Arnold, Director of Space and Nuclear Deterrence at the Office of the Air Force Assistant Secretary for Acquisition, is holding steadfast to the idea that the Air Force can and should be the military department overseeing the campaign to control space. The article continues to articulate Arnold's ideas on the Air Force's present strengths and future challenges in the management of the space program.

To read this article in its entirety, visit <http://nationaldefense.ndia.org/article.cfm?Id=207>.

AIAA—A Blueprint for Defense Reform: 2001

The American Institute of Aeronautics & Astronautics (AIAA) and Defense News are co-sponsoring the "AIAA—A Blueprint for Defense Reform: 2001" conference that will be held February 14-15, 2001, in Washington, D.C. The objective of the conference is to provide an opportunity for key industry and executive branch leaders, together with Congressional and Wall Street leaders, to evalu-

ate the current status of defense reform and to address future initiatives.

For more information, contact Maj Carolyn Campbell, SAF/AQXA, carolyn.campbell2@pentagon.af.mil, DSN 425-7118, COMM (703) 588-7118.

Defense Standardization Program Journal Update

The September issue of the *Defense Standardization Program Journal Update* has been released. The *Update* is published four times a year as a supplement to the *Defense Standardization Program Journal*. It provides a means to communicate current Department of Defense standardization issues.

To read the journal, visit <http://www.dsp.dla.mil/>. For specific information, the Air Force point of contact is Paul A. Palmer, paul.palmer@pentagon.af.mil, DSN 425-7847, COMM (703) 588-7847.

The opinions expressed in this newsletter are not necessarily those of the United States Air Force, its employees, or subcontractors.

Distributed Mission Training IPT Wins John J. Welch, Jr. Award

The John J. Welch, Jr. Award for Excellence in Acquisition Management was awarded to the Distributed Mission Training (DMT) Integrated Product Team (IPT) for their outstanding achievements in calendar year 1999. Throughout the year, the team successfully implemented innovative acquisition practices and provided revolutionary training capability that facilitated the pioneering of several new key acquisition approaches. In doing so, the DMT IPT acquired "simulation services" instead of hardware to enable training with new high fidelity aircraft simulators, netting a combined savings of \$315 million. The team is also revolutionizing aerospace team training by implementing a "train the way we fight" philosophy to conduct joint and combined forces mission rehearsals.

Learning from Nature: Chaos to Self-Organization

In today's society, it is not uncommon to hear the terms "chaos theory," "complexity," or "self-organization" while reading a business management article or attending a management seminar. Organizational Theorists have been using these scientific terms for the past decade. But just what exactly do they mean and how do they apply to management? This article attempts to answer these questions and summarize the research and findings of key leaders in this field.

Newtonian science and the machine metaphor have dominated society for the last two centuries. Together they declared that the universe and everything in it could be understood as a clock-like mechanism composed of separate parts acting upon one another with precise, linear laws of cause and effect. In accordance with this concept, people were given specific roles or functions and were expected to act like machines. This has led to hierarchical organizations with centralized authority and routine practices that were predictable and controllable. However, this machine model is no longer applicable in today's society. To be successful in the modern world, organizations must be self-organizing, self-governing, creative, innovative, and adaptive to constantly changing conditions.

To meet the challenges of the 21st century, many organizations are replacing the Newtonian model with the organic (living) model. In contrast to the Newtonian belief that we should concentrate on the parts of a system, the organic model focuses on the whole system and its relationships. Science has shown that the impulse of living systems is to organize and create a world in which they can thrive. They do this by creating systems of relationships from which all members can benefit. This movement toward organization, called self-organization in the sciences, is everywhere from microbes to galaxies. If one can accept the fact that social organizations are similar to physical systems, then one can begin to understand how to use this living model in the workplace.

Chaos and Complexity theories have given rise to the idea of using confusion and chaos to thrive in the workplace. They describe the fact that living systems use chaos to achieve self-organization and adapt to changing conditions. Scientists who have studied the functioning of organic systems tell us that it is at the edge of chaos that living things are most flexible and have the greatest potential for novelty and creativity. When people experience chaos, they become scared and frustrated and try to problem-solve their way out of it. However, this confusion can be a good thing. How many times in our lives have we had to go through a period of painful confusion before we suddenly understood what it is we want? This chaos can have the same effect in the workplace. By creating

confusion and overloading employees with relevant information, people can let go of their present conceptions and come up with creative and bold solutions. A new kind of order is created—one that is adaptive and transforming, the way a healthy organization should be.

Chaos does not mean lawlessness. Within chaos, systems are allowed to find their own way. There is a natural tendency to create repeatable, observable patterns. At any moment in time, this may seem like complete chaos when, in fact, it is not. "Clouds are not spheres. Lightning is

not straight. Over and over, we see in nature the signature of chaos, in which a botanical or geological character is repeated and a pattern is revealed. What we call disorder or wilderness is simply a higher order of order than our Newtonian mindset allows for," says organizational theorist Margaret Wheatley. For the past decade, Wheatley has been using these concepts to help the U.S. Army remold its organization to meet 21st century challenges. In the Army, chaos is a way of life. It is their job to make order out of chaos. Together, they have been working to discover the patterns that the US army experiences during chaos. They are then using this information to help them succeed in the future.

(Continued on page 7)

For More Information

The following books address the concepts in this article:

Belasco, James; Strayer, James. "Flight of the Buffalo: Soaring to Excellence, Learning to Let Employees Lead" (1999).

Cabana, Steven; Purser, Ronald. "The Self Managing Organization" (1998).

Hock, Dee. "The Art of Chaordic Leadership" (2000).

Mcmaster, Michael. "The Intelligence Advantage: Organizing for Complexity" (1996).

Sanders, Irene. "Strategic Thinking and the New Science, Complexity and Change" (1998).

Wheatley, Margaret. "A Simpler Way" (1996) and "Leadership and the New Science" (1999).

Youngblood, Mark. "Life at the Edge of Chaos: Creating the Quantum Organization" (1998).

HAF 2002 Achieves Great Successes

By Michael A. Wingfield, Lt Col, USAF, Reengineering
Project Manager, HAF 2002 Integration Office

There's an old adage "change happens—one permanent change of station and one retirement at a time" that allegedly applies to many military organizations, perhaps even Headquarters Air Force (HAF). The saying is generally used to describe the negative manner by which change is brought about—only after the impediment to change accepts a permanent change of station or retires. But that hasn't been the case with HAF 2002, a proactive change and improvement effort being led by the Secretary of the Air Force and Chief of Staff of the Air Force. Unfortunately, change is often viewed as a four-letter word—BAD. Okay, that's a three-letter word, but it aptly describes the skepticism with which most change and improvement efforts are viewed. I challenge those skeptics to look beyond the veil of instant gratification that's often sought when improvement efforts are undertaken in order to see, especially in the case of HAF 2002, the subtle and not-so-subtle changes that have had a positive impact on the HAF. Here's a view from behind the scenes of the successes attributed to HAF 2002.

The first success deals with identity. You've probably noticed the acronym "HAF" in the preceding paragraph a few times. This word may have resonated with you, or you may be wondering what it means. Part of HAF 2002 involves solidifying our identity as a Headquarters. Although HAF is comprised of both the Secretariat and the Air Staff, we are one HAF—not two halves. And HAF 2002 has moved to reinforce this unifying identity with the introduction of the HAF Staff Call, which is just one method of reinforcing our unity and bringing us together as a cohesive Headquarters. Over the last year, the Secretary of the Air Force (SECAF), the Chief of Staff of

the Air Force (CSAF), the Under Secretary of the Air Force, and the Vice Chief of Staff of the Air Force have held joint commanders' calls to address the HAF. These staff calls (of which the fourth was conducted on 24 Aug 00) provide HAF members excellent, and heretofore non-existent, opportunities to hear the pressing issues directly from the Air Force's top leadership. They also provide a forum for direct queries on matters of concern.

To further reinforce our HAF identity and to help build a foundation for all incoming HAF members, the HAF 2002 Integration Office developed a comprehensive HAF Orientation Course. Held over a five-day period, the HAF Orientation Course provides inbound HAF members with the fundamentals on our mission as a Headquarters and helps ease their transition into the National Capitol Region. We've held six courses since the first course was offered in June 2000, and the feedback from the attendees has been overwhelmingly positive. The SECAF has personally addressed the course on four separate occasions and has professed the importance of providing an up front learning experience to help make our HAF members immediately functional and ready to work.

The establishment of the HAF Executive Secretariat (HAF ES) is another success story. For the first time, our Headquarters has a single focal point for managing the flow of taskings and work performed within the HAF. Given the mul-

titude of taskings that come from a variety of sources within and outside the Department of Defense, it was critical to establish a trusted source for task management. But HAF ES does not just encompass task management; it is, in fact, the key enabler for accomplishing work within the Headquarters.

Another key enabler for ensuring the flow of information within and outside the HAF is our network, henceforth known as HAFNet. Prior to HAF 2002, our Headquarters was supported by an entanglement of networks that couldn't talk to each other. With HAF 2002, network support was consolidated under a single service provider, the Air Force Pentagon Communications Agency. With continued implementation of a single integrated desktop architecture, we are transforming the HAF into an organization that embraces the exchange and collaboration of information and empowers HAF decision making. This architecture will form the underpinnings of a true knowledge management and distributed learning system.

(Continued on page 6)

Trouble Shooting Team Wins SAF/AQ Lightning Bolt 2000 Award

The SAF/AQ Lightning Bolt 2000 Award was recently presented to a trouble shooting team composed of AAC/YA, 53rd Weapon Evaluation Group (WEG), and Raytheon Electronic Systems Division. The team was formed to investigate the cause of a series of AMRAAM launch failures. After careful analysis, the team was able to narrow the problem down to the control section's lock-mechanism design. Then by performing a series of experiments that duplicated flight conditions, the team was able to successfully isolate the problem. Thanks to the outstanding efforts of this joint troubleshooting team, future misfires will be prevented.

Task Force Examines Workforce Challenges

The Department of Defense (DoD) is on the precipice of a crisis that the rest of the public and private sectors will also encounter—an age-related talent drain. More than 50 percent of the civilian acquisition workforce will be eligible for retirement by 2005 requiring a surge in recruiting at all levels.

Dr. Jaques A. Gansler, The Under Secretary of Defense for Acquisition, Technology and Logistics, USD (AT&L), established the Acquisition

2005 Task Force in April 2000 to provide a roadmap to meet the DoD civilian acquisition workforce challenges of the 21st century. The task force consists of representatives from each Service as designated by the Service Acquisition Executives (SAE), and the representatives of Defense Contract Management Agency (DCMA), the Defense Logistics Agency (DLA) and the Deputy Assistant Secretary of Defense for Civilian Personnel Policy, DASD (CPP).

From May through July 2000, the task force actively sought ideas and participation from the military services, the acquisition workforce, other federal departments, private industry, professional organizations, and academia by conducting briefings, workshops, and web-based surveys and by advertising in acquisition reform publications.

The task force developed 31 recommendations in the areas of strategic planning, recruiting and hiring, workforce management, retention, and quality of life. Many of the initiatives will be difficult to execute—the easy solutions already have been implemented, and what remains will require tough choices, leadership commitment, and resources. Some will require legislation or policy change, but most can be implemented now.

Managing and reshaping the civilian acquisition workforce to meet future needs is long overdue. It will require leadership commitment, new authorities, and, most importantly, a change in the traditional DoD way of managing its people. Agencies' employment structures and human resource processes must become more flexible to support the workforce of the future. To make this transition successful, DoD must employ innovative approaches to recruiting, developing, and retaining its future workforce.

The report is being finalized and will be jointly signed by Dr. Gansler and Dr. Rostker, Under Secretary of Defense, Personnel and Readiness. The draft report and more information about the task force can be found at <http://www.acq.osd.mil/yourfuture>.

The Air Force representative, Mrs. Carolyn Willis, SAF/AQPM, can be reached at williscb@acq.osd.mil or DSN 761-6829, ext 2782. □

Making a Molehill out of a Mountain—Incremental Closure of a Major Weapon System Production Contract

Too often, in the frenzy of issuing a multi-billion dollar production contract, planning for contract close-out 20 years later does not receive the attention it will eventually merit. One of the many innovative initiatives implemented by the Aeronautical Systems Center is a technique for incremental closure of a contract. The B-2 System Program office, in cooperation with the prime contractor, DCMC, DCAA, and OC-ALC, implemented an ongoing process to individually close more than 3,500 deliverable contract line items and consolidate them into 12 line items. To date, nearly half have been closed. This also led to the reduction of the 4,600-page contract to only 681 pages of active requirements. The resultant contract is easier to use and enables better program management. Most importantly, the incremental closure initiative led to a joint process that drives a cumulative and structured line of attack for contract closeout. For more information, contact Ms. Marie McManus, Chief of Contracts, B-2 Production Group, DSN 986-5151.

HAF 2002 Successes

(Continued from page 5)

Lastly, I'd like to give visibility to another HAF 2002 IO creation, the HAF Dash One. Coined "The Ultimate Guide to Headquarters Air Force," this is a web-based information source that will not only serve as a single trusted source for information on the HAF but will also hopefully be the HAF members portal of choice for getting their day-to-day work done. The web address is <http://www.hafdashone.hq.af.mil>.

For some, these successes may seem small; for others they are gigantic leaps. No matter the magnitude, HAF 2002 isn't resting on its laurels. A large part

of its work deals with allocating resources, and that's one of the processes we're currently tackling. Allocating resources is a very complex business, and any improvements to this process will involve extensive critical thinking and quite possibly some short term pain. The investment we're making now in improving this process and other key processes will enable us to become the world-class Headquarters that we want to be. Our Air Force is second to none. Through HAF 2002, we will continue to make improvements to our Headquarters to make sure it, too, is second to none. □

Learning from Nature: Chaos to Self-Organization

(Continued from page 4)

According to Wheatley, organizations must have three essential elements to be successful: 1) a continuous flow of new information, 2) strong relationships, and 3) a shared vision. If an organization is not open to new information, it will not survive. According to the Second Law of Thermodynamics, a closed system slowly winds down and decays, whereas an open system can adapt to changing conditions. In addition, relationships are critical. Quantum theory shows how subatomic particles only exist in relationship to one another and are not independent. These relationships are the building blocks of nature. In organizations, it is the teams, the people, and how they interact with each other that make up an organization. Finally, people must have meaning in their jobs. They must know who they are, how their job fits the rest of the organization, and what they are trying to accomplish as a team. This is known as a shared vision. Without a good "sense of self," an organization will get tossed and turned by shifts in its environment; it will not survive.

So what is the leader's role in this new self-organizing, chaos-thriving organization? In the book, "Life at the Edge of Chaos," Mark Youngblood gives three broad categories of activities for which the "new leader" is chiefly responsible. These are establishing context, disturbing the system, and cultivating the organization. Creativity and self-organization in living systems are contingent upon having a clear identity. In organizations, this is established through purpose, principles, strategy and culture—all of which come together in a shared vision. Leaders should focus on clarifying this shared vision, enriching the culture, developing alignment, and

promoting understanding. To support the Chaos Theory, a leader should disturb the system by creating compelling goals, ensuring the rich flow of information, promoting diversity of opinion, and holding onto anxiety to create a energizing spark for creative action. Finally, a leader should cultivate the organization by promoting ownership, nurturing relationships, encouraging learning, and nourishing the human spirit. This new role is not only more cost effective and productive for the organization, but it is also liberating for the leaders.

Many organizations have already begun using these principles. The U.S. Military, Microsoft, Intel, Cisco Systems, Lockheed Martin, VISA, Charles Schwab, Motorola, American Express, Harley-Davidson, and Starbucks are just a few examples. Each is breaking the traditional rules of management and design and, as a result, is defining new paths to success.

Self-organization is not a quick fix. It is a long-term exploration requiring enormous self-awareness and support. It requires uprooting authority structures that have been in existence for centuries, and it requires people to think differently. Leaders must be willing to take the initial plunge; only then will the rest of the organization follow. Experts in this field truly believe that self-organization is the wave of the future, not only because it improves economic performance but also because it puts dignity, care, and meaning back into work. "Left to itself, the self-organizing organization will never be more than it can be. But it can be all that it can be, in time" (Wheatley, 1999). □

Trivia Corner



To test your knowledge of military trivia, two trivia questions will appear in each edition of *Aerospace Acquisition 2000 (AA2000)*. One question will be published in the printed newsletter; the other will be posted on the AA2000 newsletter web site at www.safaq.hq.af.mil/acq_ref/news/.

Please send all responses by e-mail to arnews@pentagon.af.mil. When more than one correct response is received, the winner will be determined by the date and time on the response.

Winners will be announced in the following edition of AA2000. Each winner's name will go into a drawing to be held at the end of the calendar year for the grand prize—a \$50.00 gift certificate to Blockbuster Video. Good luck to everyone!

LAST ISSUE: ANSWER: SIR JOHN SLESSOR, 1954

WINNER: NO CORRECT RESPONSES RECEIVED

QUESTION: WHO ARE THE FATHER AND SON MEDAL OF HONOR WINNERS?

Program Instability

(Continued from page 2)

Third, we must create a resource allocation process that ties planning to programming, budgeting, and budget execution. The Air Force has already successfully accomplished many of the steps required for the strategic planning portion of this process. We have defined who we are, what we do, and how we do it through our core values, mission, and core competencies. We have taken the first steps at defining where we are today in the Air Force Strategic Plan (AFSP) Vol. 2—Mission Performance Plan. We have taken strides at defining where we want to go in our vision document, the AFSP Vol. 1—Future Security Environment, and the AFSP Vol. 3—Long Range Planning Guidance. The next steps will be to quantify our capabilities and their costs. Then, to achieve an integrated resource allocation process, this strategic planning guidance must be linked with the modernization planning, requirements generation, programming, budgeting, and budget execution processes.

Even after the key elements are successfully incorporated into an Air Force resource allocation process, the acquisition community will still need to develop a methodology for predicting program impacts of instability and the acquisition cycle time. This will require a significant effort to assess and com-

pare the alternatives. Then our leaders will have to make the difficult decisions. The good news is that all this hard work will lead to the availability of better information on which leaders can base their decisions.

As demonstrated over the last 50 or so years, the Air Force and DoD have successfully planned and created new aerospace capabilities. With each decade came intensive efforts to achieve an improved ability to plan our future. Our lightning bolts have streamlined the acquisition process, and Cost as an Independent Variable (CAIV) has generated improvements in program affordability.

Currently, HQ USAF has a major reengineering effort underway, HAF 2002. If successful, there is a good chance program instability can be reduced.

Will we fail? Only if we quit.

“Never give in, never give in, never, never, never, never—in nothing, great or small, large or petty—never give in except to convictions of honour and good sense.”—Sir Winston Churchill, October 29th, 1941, Harrow School. □



SAF/AQXA
1060 Air Force Pentagon
Washington, DC 20330-1060