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**SENATE ARMED SERVICES COMMITTEE**  
**HEARING**  
**ON**  
**KOSOVO AFTER-ACTION REVIEW**

**OCTOBER 14, 1999**

For 50 years, NATO has given caution to our foes and comfort to our friends. As a watershed in NATO's long history, Operation Allied Force was an overwhelming success. NATO accomplished its mission and achieved all of its strategic, operational, and tactical goals in the face of an extremely complex set of challenges. We forced Milosevic to withdraw from Kosovo, degraded his ability to wage military operations, and rescued and resettled over one million refugees. We accomplished this by prosecuting the most precise and lowest-collateral-damage air campaign in history—with no U.S. or allied combat casualties in 78 days of around-the-clock operations and over 38,000 combat sorties.

Diplomacy and deterrence having failed, we knew that the use of military force could not stop Milosevic's attack on Kosovar civilians, which had been planned in advance and already was in the process of being carried out. The specific military objectives we set were to attack his ability to wage combat operations in the future against either Kosovo or Serbia's neighbors. By weakening his ability to wage combat operations, we were creating the possibility that the military efforts of the Kosovar Albanians, which were likely to grow in intensity as a result of Milosevic's atrocities in Kosovo, might be a more credible challenge to Serb armed forces. In any event, we determined that Milosevic would pay a steep price for his aggression and that his decade-long pattern of warfare would be undermined.

In taking these actions against Milosevic, alliance forces demonstrated unrivaled military prowess by executing the largest combat operation in NATO's history. New systems and capabilities fielded for the first time in combat exceeded expectations. We were also able to reassure and help neighboring countries come through the crisis intact, despite Milosevic's intent to destabilize the region. In short, NATO demonstrated both the unwavering political cohesion and unmatched military capability that will be required to overcome the complex and unpredictable security challenges of the 21<sup>st</sup> century.

In the wake of this victory, we need to learn how to sustain and build upon what went right in this operation and how to improve on identified shortcomings. Thus, in June, we directed the Vice Chairman of the Joint Chiefs of Staff and the Deputy Secretary of Defense to study the lessons from this military operation. Today, we will provide you with an in-progress update on that assessment, even as elements of this extensive review are still underway.

There is an old saying that we are always learning how to fight the last war. Our after-action report will help us anticipate how we might face the future, without assuming that the next conflict will be exactly the same as this one. As part of that effort, it is important to understand how we entered this conflict and how the key decisions were made to undertake the military campaign.

## **I. Prelude to Conflict**

Ten years ago, Kosovo was an autonomous province of Yugoslavia, with a functioning, multi-ethnic government. Milosevic took away that autonomy and implemented apartheid-like policies that excluded Kosovar Albanians from virtually all positions of responsibility. In 1989, President Bush warned Milosevic of the consequences of Serb violence against or forced expulsion of Kosovar Albanians. In 1998, this discrimination turned into systematic violence

against the Kosovar Albanians, precipitating the crisis that forced NATO to act on the diplomatic and military fronts. Last October, under pressure of impending NATO military action, Milosevic agreed to deployments of international observers into Kosovo, and the violence subsided significantly. But by late winter, the violence had resumed, NATO was again reviewing military options, and the parties were summoned to negotiations at Rambouillet, France—which ultimately failed because of Serb intransigence.

On March 21 of this year, the international community initiated one last diplomatic effort. Ambassador Holbrooke was dispatched to Belgrade to deliver a warning to Milosevic. On March 22, in response to Belgrade's continued intransigence and repression, and in view of the evolution of the situation on the ground in Kosovo, the North Atlantic Council (NAC) gave NATO Secretary General Solana authority, subject to consultations with the allies, to order a phased air operation. Ambassador Holbrooke departed Belgrade on March 23, having received no concessions of any kind from Milosevic, which then led Secretary General Solana to direct General Wesley Clark, Supreme Allied Commander Europe (SACEUR), to initiate air operations in the Federal Republic of Yugoslavia (FRY). On March 24, 1999, the United States and its NATO allies turned from a path of diplomacy backed by the threat of force to a military campaign supported by diplomacy.

**Interests at Stake.** The United States and its NATO allies had three strong interests at stake during the Kosovo crisis.

First, Serb aggression in Kosovo directly threatened peace throughout the Balkans and the stability of NATO's southeastern region. There was no natural boundary to this violence, which previously had moved from Slovenia to Croatia to Bosnia and then to Kosovo. Continued fighting in Kosovo threatened to: (a) scuttle the successful Dayton peace process in Bosnia; (b) re-ignite chaos in Albania; (c) destabilize the Former Yugoslav Republic of Macedonia, with its large Albanian minority; and (d) spill over into other neighboring countries, including Bulgaria and Greece. Instability in this region had the potential to exacerbate rivalries between Greece and Turkey, two NATO allies with significant and often distinct interests in Southern Europe.

Second, Belgrade's repression in Kosovo created a humanitarian crisis of staggering proportions. Dubbed "Operation Horseshoe" by the Serbs, this ethnic cleansing campaign was comprehensively planned months in advance by Milosevic as a brutal means to end the crisis on his terms by expelling and killing ethnic Albanians, overtaxing bordering nations' infrastructures, and fracturing the NATO alliance. NATO and other members of the international community responded to this crisis, preventing starvation and ensuring, ultimately, that the Kosovars could return safely to their homes.

Third, Milosevic's conduct leading up to Operation Allied Force directly challenged the credibility of NATO, an alliance that has formed the bedrock of transatlantic security for fifty years. The Federal Republic of Yugoslavia and the Republic of Serbia signed agreements in October 1998 that were to be verified by the Organization for Security and Cooperation in Europe (OSCE) and monitored by NATO. In the period leading up to March 1999, the FRY increasingly and flagrantly violated these agreements. Had NATO not eventually responded to

these violations and other acts of the FRY, its own credibility, as well as the credibility of U.S. security commitments throughout the world, would have been called into question.

Balancing NATO's response to the Kosovo conflict with the desire to maintain a positive and cooperative relationship with Russia, which strongly opposed NATO military actions against the FRY, was essential. Given the importance of maintaining a constructive relationship with Moscow, both the United States and NATO had to consider carefully how their actions in the Balkans would affect their long-term relationship with Russia.

**Reaffirming the Alliance.** The North Atlantic Treaty Organization proved to be flexible, effective, and ultimately successful during a uniquely challenging time in its history. Despite domestic pressures in many NATO nations, an enormous humanitarian crisis, and isolated instances of inadvertent collateral damage, the nations of the alliance held firm and saw the operation through to a successful conclusion.

Some say that working within the NATO alliance unduly constrained U.S. military forces from getting the job done quickly and effectively. And certainly, it was no surprise to any of us as we entered this conflict that conducting a military campaign in the alliance would be challenging, as we will discuss in more detail later. Nevertheless, *Operation Allied Force could not have been conducted without the NATO alliance* and without the infrastructure, transit and basing access, host-nation force contributions, and most importantly, political and diplomatic support provided by the allies and other members of the coalition. These immense contributions from our allies and partners—particularly those nations near the theater of conflict like Hungary, Macedonia, Bulgaria, Romania, Albania, and others—were in large part a dividend of sustained U.S. and NATO engagement with those nations over the last few years. This engagement—including vigorous participation in Partnership for Peace activities—helped to stabilize institutions in these nations so they were better able to withstand the tremendous burden inflicted upon them by the humanitarian crisis and the conduct of the operation itself.

Admittedly, gaining consensus among 19 democratic nations is not easy and can only be achieved through discussion and compromise. However, the NATO alliance is also our greatest strength. It is true that there were differences of opinion within the alliance. This is to be expected in an alliance of democracies, and building consensus generally leads to sounder decisions. If NATO as an institution had not responded to this crisis, it would have meant that the world's most powerful alliance was unwilling to act when confronted with serious threats to common interests on its own doorstep. It is important to remember that the alliance had been addressing this crisis—through diplomatic activities and military planning—for some time before the onset of the military campaign itself. Because NATO had been engaged in trying to resolve this conflict before the operation commenced, because it had conducted planning for the operation itself, because of its member nations' respect for differences of opinion and the need for consensus, and, simply, because the alliance is the most effective means there is for addressing European security problems—as it demonstrated through perseverance and unwavering solidarity—it was both natural and inevitable that we would work through NATO. Without the direct support of our NATO allies and key coalition partners, the campaign would not have been possible. There are, of course, useful lessons to be learned for NATO

decisionmaking processes during crises and for alliance capabilities, which we will discuss, but this must not obscure the fact that NATO stood up to the challenge facing it and succeeded.

## **II. The Campaign Over Kosovo**

The campaign over Kosovo was not a traditional military conflict. There was no direct clash of massed military forces in Operation Allied Force. Milosevic was unable to challenge superior allied military capabilities directly. Therefore, he chose to fight chiefly through indirect means: use of terror tactics against Kosovar civilians; attempts to exploit the premium the alliance placed on minimizing civilian casualties and collateral damage; creation of enormous refugee flows to create a humanitarian crisis; and the conduct of disinformation and propaganda campaigns. Milosevic's military forces were forced into hiding throughout most of the campaign, staying in caves and tunnels and under the cover of forest, village, or weather. He was forced to husband his antiaircraft missile defenses to sustain his challenge to our air campaign. He chose his tactics in the hope of exploiting our legitimate political concerns about target selection, collateral damage, and conducting military operations against enemy forces intermingled with civilian refugees. He failed, despite all these efforts.

At the outset of the air campaign, NATO set specific strategic objectives for its use of force in Kosovo that later served as the basis for its stated conditions to Milosevic for stopping the bombing. These objectives were to:

- Demonstrate the seriousness of NATO's opposition to Belgrade's aggression in the Balkans;
- Deter Milosevic from continuing and escalating his attacks on helpless civilians and create conditions to reverse his ethnic cleansing; and
- Damage Serbia's capacity to wage war against Kosovo in the future or spread the war to neighbors by diminishing or degrading its ability to wage military operations.

Although there were expectations on the part of some that this would be a short campaign, we made clear to our allied counterparts that Operation Allied Force could well take weeks or months to succeed and that the operation should only be initiated if all were willing to persevere until success was achieved. Alliance leaders agreed in advance that if the initial strikes did not attain NATO's goals, NATO would have to persist and indeed expand its air campaign.

**Phases of the Campaign.** Operation Allied Force was originally planned to be prosecuted in five phases under NATO's operational plan, the development of which began in the summer of 1998. Phase 0 was the deployment of air assets into the European theater. Phase 1 would establish air superiority over Kosovo and degrade command and control over the whole of the FRY. Phase 2 would attack military targets in Kosovo and those FRY forces south of 44 degrees north latitude, which were providing reinforcement to Serbian forces into Kosovo. This was to allow targeting of forces not only in Kosovo, but also in the FRY south of Belgrade. Phase 3 would expand air operations against a wide range of high-value military and security force targets throughout the FRY. Phase 4 would redeploy forces as required. A limited air

response relying predominantly on cruise missiles to strike selected targets throughout the FRY was developed as a stand-alone option, and was integrated into Phase 1. Within a few days of the start of NATO's campaign, alliance aircraft were striking both strategic and tactical targets throughout Serbia, as well as working to suppress and disrupt the FRY's integrated air defense system.

At the NATO Summit in Washington on April 23, 1999, alliance leaders decided to further intensify the air campaign by expanding the target set to include military-industrial infrastructure, media, and other strategic targets and announcing the deployment of additional aircraft. The alliance also clearly outlined its political conditions to end the operation. As proclaimed in the NATO Statement on Kosovo, President Milosevic had to:

- Ensure a verifiable stop to all military action and the immediate end of violence and repression in Kosovo;
- Withdraw from Kosovo his military, police, and paramilitary forces;
- Agree to the stationing in Kosovo of an international military presence;
- Agree to the unconditional and safe return of all refugees and displaced persons, and unhindered access to them by humanitarian aid organizations; and
- Provide credible assurance of his willingness to work for the establishment of a political framework based on the Rambouillet accords.

**Role of Diplomacy.** During Operation Allied Force, our diplomacy had several objectives. The first was to ensure that NATO remained united and firm. To this end, the President, the Secretary of State, other U.S. officials, and the both of us spoke almost daily with our alliance counterparts during the 78-day campaign. Our unity and resolve not only remained firm, but strengthened over time. One month into the campaign, at the April 1999 NATO Summit, alliance members demonstrated their solidarity by making clear the conditions that would bring an end to the operation and announcing an intensification of the air campaign.

Our second diplomatic objective was to help the countries that were directly affected to cope with the humanitarian crisis, and to prevent the conflict from widening. To this end, the Secretary of State was in regular contact with her counterparts from the region. The United States, its NATO allies, and, in fact, many other countries and nongovernmental organizations from around the world contributed prodigious amounts of emergency assistance to help meet the needs of the tides of refugees then pouring out of Kosovo into neighboring countries. (Of course, U.S. and allied militaries contributed to this effort, as discussed in detail below.)

Our third diplomatic objective was to work constructively with Russia. History will show that, after a somewhat rocky start, the relationships between the United States and Russia, and between the NATO alliance and Russia, over the issue of Kosovo were maintained effectively over the course of Operation Allied Force. While there continued to be sharp differences with Russia over the conflict itself and the kind of international presence that would

be required in Kosovo after the conflict ended, these differences did not preclude agreement on the conditions that Belgrade would have to meet to bring an end to the air campaign—or indeed on the roles for Russian army units in the NATO-led KFOR.

Before turning to the operational lessons from Kosovo, let us discuss two issues of broader importance: What caused Milosevic to acquiesce to NATO's stated conditions to end the bombing, and could U.S. forces have fought and won two nearly simultaneous major theater wars during the Kosovo campaign?

### **III. Why Did Milosevic Acquiesce?**

Because many pressures were brought to bear, we can never be certain about what caused Milosevic to accept NATO's conditions to stop the bombing and instruct the Serbian military to sign the Military Technical Agreement with NATO embodying those conditions. Clearly, the mounting damage that resulted from the intensified air campaign against strategic, military-industrial infrastructure, and national command and control targets, as well as the attacks against Milosevic's fielded forces in Kosovo and Serbia's utter inability to cause any notable damage or casualties to NATO forces, had a major impact on Milosevic's decision.

However, other factors were also at work. First, *the solidarity of the alliance* was central in compelling Belgrade to accept NATO's conditions. Because Milosevic could not defeat NATO militarily, his best hope lay in splitting the alliance politically. Thus, it was not enough for NATO simply to concentrate on winning a military victory; at the heart of allied strategy was building and sustaining the unity of the alliance. NATO maintained its resolve—even in the face of potential setbacks as serious as the inadvertent Chinese Embassy bombing and isolated incidents of unintended collateral damage and civilian casualties—and it became clear that Milosevic could not undermine NATO's unity and purpose.

Second, *the alliance's continuous efforts to engage Russia in diplomacy* proved critical to achieving the settlement. While Russia strongly opposed the air campaign, it sharply limited its practical support to the FRY and was prepared to work with the alliance diplomatically to end the conflict. The Russians agreed that the refugees should return, that Serb forces should leave, and that some form of international security force with NATO at its core needed to be deployed to Kosovo. When Finnish President Ahtisaari and Russian Special Envoy Chernomyrdin met with Milosevic in Belgrade and spoke with one voice, Milosevic realized that he had become politically isolated and could expect no help from Russia.

Third, *the buildup of NATO ground combat power* in the region (e.g., Task Force Hawk in Albania, allied peace implementation forces in the Former Yugoslav Republic of Macedonia, and visible preparations for the deployment of additional forces), combined with the increasing public discussion of the possibility of and planning for the use of ground forces, undoubtedly contributed to Milosevic's calculations that NATO would prevail at all costs.

Fourth, *the persistent military efforts of the Kosovar Albanians* in the face of significant setbacks—particularly their resurgence in the latter weeks of the campaign—demonstrated to Milosevic that he would not be able to eliminate this threat.

Finally, NATO nations employed other economic and political means—enforcing economic sanctions, tightening travel restrictions, freezing financial holdings—that raised the level of anxiety and discontent within Belgrade’s power circles. In addition, the indictment of Milosevic by the international war crimes tribunal certainly helped persuade his most powerful supporters that the international political consensus against Serbia’s actions would continue to strengthen rather than weaken.

In sum, these factors all played important roles in the settlement of the crisis.

#### **IV. Implications for U.S. Defense Strategy**

We also need to consider the implications of this campaign for our overall defense strategy, including the foremost question in this regard: Did the operation jeopardize our ability to fight and win two nearly simultaneous major theater wars?

To begin, we must be clear about our strategy and what this means for the nation. As a global power with worldwide interests, it is imperative that the United States, in concert with its allies, be able to deter and defeat large-scale cross-border aggression in two distant theaters in overlapping time frames. In short, we must be able to fight and win two major theater wars nearly simultaneously.

Without question, a situation in which the United States would have to prosecute two major theater wars nearly simultaneously would be extraordinarily demanding—well beyond that required for Operations Desert Shield/Desert Storm in 1990 and 1991. It would involve our complete commitment as a nation and would entail all elements of our total force. We have always recognized that, if confronted with two major theater wars, we would need to withdraw U.S. forces from ongoing peacetime activities and smaller-scale contingency operations as quickly as possible—including, in this instance, from Operation Allied Force—to prepare them for war. Consistent with our defense strategy, U.S. forces could not have continued the intense campaign in Kosovo and, at the same time, been prepared to fight and win two major theater wars.

We were clearly mindful of our strategy as we undertook the campaign in Kosovo—just as we do when we undertake all other contingency operations—and we continually assessed the impact of these operations on our ability to defend effectively in other potential warfighting theaters. For example, we recognized that the air bridge supporting operations in Kosovo would have enhanced our ability to respond to the threat of theater war in Southwest Asia. (And we already believed our deterrent posture to be strong because of substantial military capabilities associated with Operations Northern Watch and Southern Watch, our naval presence in the Persian Gulf and routine ground force deployments.) In the Pacific theater, we determined that it would be prudent to enhance our deterrent posture against North Korea through a variety of means, including repositioning of units and the placement of other selected units on a short-time response posture. Our objective in both theaters was to maintain a very visible defense capability to discourage leaders in Baghdad and Pyongyang from believing that our focus on Kosovo would present an opportunity to threaten our allies and friends in those important

regions. Should we have faced the actual threat of war, we have detailed plans for redeploying committed assets to these potential warfighting theaters.

Ultimately, should we have faced the challenge of withdrawing U.S. forces to mount two major wars in defense of our vital interests elsewhere, we are confident that we would have been able to do so, albeit at higher levels of risk. We were cognizant of these risks at the time and made various adjustments in our posture and plans to address them. We recognize, however, that managing these risks is a highly complicated endeavor that would benefit from a more structured and dynamic set of tools for assessing our ability to conduct major wars when we respond to contingencies.

## **V. Lessons Learned from Kosovo**

In the aftermath of the military operations in Kosovo, we asked Deputy Secretary of Defense John Hamre and Vice Chairman of the Joint Chiefs of Staff Joe Ralston to lead a review of the operation, with the goal of highlighting the most important lessons and drawing all necessary conclusions. We asked that the review identify both what went right and what went wrong, that it assess our ability to plan as well as our ability to conduct military operations, and that it consider the NATO alliance as a whole in addition to the many U.S. contributions. That effort has been underway since last summer. We have examined a broad range of issues—from the demands of alliance and coalition warfare to employment of our military forces to the functioning of our command, control, computer, communications, intelligence, surveillance, and reconnaissance (C4ISR) systems. A discussion of insights derived from this initial effort follows.

## **VI. Alliance and Coalition Warfare**

Operation Allied Force taught us much about how we function as a government and how we function as a member of an alliance when engaged in a major military operation.

Before and during Operation Allied Force, the National Security Council (NSC) oversaw a series of interagency planning efforts on Kosovo. These planning efforts were directed by the NSC's Deputies Committee and monitored by an interagency Kosovo Executive Committee. The first political-military plan on Kosovo, completed in the fall of 1998, focused on using the threat of NATO air strikes to achieve a political-military settlement. After this threat of force convinced Milosevic to garrison most Serb forces in October 1998, interagency planning efforts focused on deploying the OSCE's Kosovo Verification Mission, facilitating humanitarian assistance, and responding to possible Serbian noncompliance.

During Operation Allied Force, two interagency planning efforts occurred simultaneously. The first involved the development of a strategic campaign plan designed to ensure that wider U.S. and allied diplomatic, economic, and information efforts were integrated with our military operations. As it became clear that Milosevic hoped to outlast the alliance, more attention was paid to other ways of bringing pressure to bear. The second effort involved planning for a NATO-led peace implementation force in Kosovo—KFOR—and an international

civilian presence—the U.N. Mission in Kosovo (UNMIK)—after NATO’s military campaign had achieved its objectives.

This experience has taught us that our planning must better reflect the full range of instruments at our disposal, including the use of economic sanctions, public diplomacy, and other information efforts. Our initial planning focused on air strikes and diplomacy as the tools to achieve U.S. and NATO objectives. To ensure comprehensive planning and high-level awareness of the range of instruments available to decisionmakers, we believe it is important that senior officials participate routinely in rehearsals, gaming, exercises, and simulations.

In a broader context, we also gained valuable insights about our participation as a member of the NATO alliance and how the alliance itself functions in support of military operations. As early as May 1998 and through the balance of that year and into 1999, internal NATO planning explored a wide range of military options, including the use of both air and ground forces. NATO planning for possible air operations encompassed two separate but related options. The limited air response was designed as a quick-strike, limited-duration operation, primarily to be used in response to a specific event. In contrast, the phased air campaign was designed to increase the military pressure on Milosevic, targeting not only Serbia’s Integrated Air Defense System (IADS) and command and control (C2) sites, but also fielded forces and targets of military significance in Kosovo and eventually throughout the FRY.

During the course of the campaign, NATO developed mechanisms for delegating target approval authority to military commanders. For selected categories of targets—for example, targets in downtown Belgrade or targets likely to involve high collateral damage—NATO reserved approval for higher political authorities. This proved to be a flexible mechanism for meeting the military requirements of the campaign while preserving the necessary level of political oversight.

NATO’s internal command relationships played an important role in the planning and execution of the operation. These relationships are well defined, but had not been used previously to plan and conduct sustained combat operations. Moreover, parallel U.S. and NATO command and control structures and systems complicated operational planning and maintenance of unity of command.

In the aftermath of the operation, we believe that we need to work with our allies to:

- Enhance NATO’s contingency planning process for non-Article V operations;
- Develop an overarching command and control policy and agree on procedures for the policy’s implementation; and
- Enhance procedures and conduct exercises strengthening NATO’s political-military interfaces.

We should remember that our NATO partners contributed significantly to the military capabilities employed in Operation Allied Force. Broadly speaking, other members of the

alliance contributed about the same share of their available aircraft for prosecuting the campaign as did the United States. Alliance members also contributed ground forces that helped to stabilize neighboring countries and to conduct humanitarian relief operations. And Operation Allied Force would not have been possible to conduct without the use of our allies' military infrastructure, including military bases, airfields, and airspace.

Notwithstanding these contributions, the operation highlighted a number of disparities between U.S. capabilities and those of our allies, including precision strike, mobility, and command, control, and communications capabilities. The gaps in capability that we confronted were real, and they had the effect of impeding our ability to operate at optimal effectiveness with our NATO allies. For example, because few NATO allies could employ precision munitions in sufficient numbers (or at all), the United States conducted the preponderance of the strike sorties during the early stages of the conflict. The lack of interoperable secure communications forced reliance on non-secure methods that compromised operational security. These problems persisted throughout the campaign. Insufficient air mobility assets among our allies slowed deployment of KFOR ground forces—beyond those already in the theater, who led the KFOR entry—once Milosevic agreed to NATO's terms to end the conflict. Such disparities in capabilities will seriously affect our ability to operate as an effective alliance over the long term. If the alliance is to meet future military challenges effectively, it must successfully implement the Defense Capabilities Initiative—which we introduced to our alliance counterparts in the spring of 1998 and was formally adopted at the April 1999 NATO Summit. The Defense Capabilities Initiative will enhance allied military capabilities in five key areas: deployability and mobility, sustainability and logistics, effective engagement, survivability of forces and infrastructure, and C2 and information systems. The United States will continue to promote the DCI and encourage experimentation by NATO's members with new and advanced warfighting concepts. Successful implementation of DCI must remain one of NATO's top priorities—a lesson strongly influenced by the Kosovo experience.

## **VII. Deployment, Employment, and Sustainment**

**Deploying Forces to the Theater.** The United States and its NATO allies rapidly committed substantial military capabilities to Operation Allied Force. In particular, the United States quickly augmented its forces in Europe by drawing upon its other forces deployed worldwide, including those based in the continental United States. In conducting this rapid buildup of forces, we made extensive use of existing plans and capabilities for conducting major wars. For example, the C-17 was the workhorse of the airlift force, providing for the rapid deployment of critical warfighting and humanitarian materiel. Our aerial-refueling fleet overcame extended sortie durations and high usage rates to deploy and support a multinational air force. And our sea mobility assets resupplied preferred munitions in addition to providing transportation for key deployment forces.

Although highly successful, the buildup conducted during Operation Allied Force highlighted some aspects of the planning process that could be improved. For example, the Department's systems for planning and executing transportation of its forces were strained by the rapidly evolving requirements of Operation Allied Force. The operation also required rapid augmentation of the capabilities and joint staff at Headquarters, European Command. The pool

of personnel available to perform certain key functions, such as language translation, targeting, and intelligence analysis, was limited. While some individual reserve personnel were assigned quickly to perform such functions, some shortages occurred because reserve units had not been activated. Prior development of a detailed crisis augmentation plan for the European Command would have facilitated more rapid assignment of personnel to the theater.

Consistent with this experience, the Department is improving its ongoing programs to provide automated, rapid-response transportation planning. In addition, the Joint Staff, services, and commanders-in-chief will develop crisis augmentation plans, and the Department will develop options for earlier and more efficient use of the capabilities resident in its reserve forces.

**Communications and Command and Control.** Ground-based communications capabilities in Europe are among the most robust and flexible available to the United States in any theater of operations. Nonetheless, these capabilities were used to their full capacity, and there was a need to augment them during the operation to facilitate rapid dissemination of the large volumes of data needed by commanders to prosecute the air war. One of the most useful communications capabilities was provided by the wide-band dissemination system, an advanced concept technology demonstration used extensively throughout the conflict for rapidly transmitting high-priority imagery of emerging targets. Because the need for this and related capabilities is likely to grow in the future, the Department is studying the improvements that ought to be made to our ground-based communications systems in all theaters.

Allied Force was an extremely complex operation requiring real-time coordination of a large military force comprising many sophisticated elements. In order to attack targets in the FRY, NATO forces had to transit regions in which everyday civilian activities, including commercial air traffic, continued unabated, further complicating command and control. In addition to providing carrier-based combat aircraft, U.S. naval forces in the Adriatic Sea provided capabilities for command and control, including interfaces with civilian air traffic control systems, that were invaluable.

**Logistics.** Throughout Operation Allied Force, U.S. forces had to overcome many limitations in transportation infrastructure. Poor airport surface conditions in Tirana, Albania, for example, slowed aircraft turnaround times, limited throughput, and slowed the onward movement of forces and humanitarian supplies. Our transportation and other logistic assets proved to be flexible, effective, and efficient in responding to these limitations. In particular, the C-17 made the concept of direct delivery—the strategic air movement of cargo from an aerial port of embarkation to an airfield as close as practicable to the final destination—a reality. And, as discussed later in more detail, the deployment to Europe of aircraft based across the world, coupled with the wide range of bases used by combat aircraft in the theater, made aerial refueling a challenge. Nonetheless, active and reserve component tankers provided multiple air bridges for aircraft transiting to the theater, while also supporting over 24,000 combat air sorties. Other logistics successes include timely intertheater movement of stocks of preferred munitions, including prepositioned munitions ships, and effective and efficient management of theater fuel distribution, including the use of prepositioned fuel ships.

The Department has standing plans for moving forces to major theater wars. It did not have such plans for Operation Allied Force, however. The rapidly evolving requirements of Allied Force strained our ability to quickly develop plans for deploying our forces that utilized our lift assets efficiently. We relied heavily on strategic airlift to deploy forces to the theater, while using strategic sealift sparingly. This was due to the understandable desire of the commanders in the field to have needed equipment and personnel transported as quickly as possible; air transport was, however, not mandatory in all cases. Improvements have been made in sealift capability to increase the readiness level of the Ready Reserve Force (RRF) to ensure its reliability and speed. When possible, increased use of sealift assets should be considered in future conflicts and contingencies. And the improvements that the Department is making to its automated capabilities for real-time transportation planning will enable better use of these improved sealift assets to support the rapidly evolving needs of a contingency such as Operation Allied Force.

**Air Defenses.** The threat posed by Serbia's offensive air capability was eliminated rapidly. Reducing Serbian defensive capabilities did not proceed as quickly, however, because the Serbs possessed a capable integrated air defense system that was very difficult to eliminate. NATO plans called for the systematic degradation of these integrated air defenses. This proved problematic because of our concerns regarding target selection and collateral damage, and because of the tactics the Serbs adopted. The Serbs chose to conserve their air defenses, while attempting to down NATO aircraft as targets of opportunity. Individual longer-range systems emerged to fire at our aircraft in an unpredictable fashion. Shorter-range Serbian anti-aircraft artillery and man-portable air defense systems were plentiful, and their locations were difficult to predict. And the command and control system supporting the Serb air defenses was redundant, flexible, and adaptable, further complicating its defeat. Rather than expend sorties attempting to attack these threats, commanders chose to operate at altitudes beyond which most Serbian anti-aircraft systems could effectively be employed.

Although NATO forces had difficulty targeting the Serb defensive systems, the Serbs had minimal success downing NATO forces. Indeed, the allied air offensive was sustained and, in fact, expanded greatly despite the remaining Serbian air defense systems. We succeeded because we maintained pressure on their defenses, forcing the Serbians to keep their systems hidden under most circumstances and to use defensive tactics that limited the systems' effectiveness. For example, the Serbs had to limit greatly the time they could keep radars operating, and on occasion they fired missiles without ground-launch guidance signals rather than expose their air defense systems to immediate counterattack. We increased the tempo of operations in our air defense suppression forces to help make this possible. We also adapted our concepts of operation to sustain an increasing pace of strike operations without compromising our concern for minimal casualties and collateral damage.

While we prevailed in delivering a punishing air offensive with virtually no loss to NATO forces, we must acknowledge some concerns for the future. Although among the most capable that the United States has faced in combat, the FRY air defense systems did not represent the state of the art. Much more capable systems are available for sale in the international arms market. In the years ahead, we may face an adversary armed with state-of-the-art systems, and we need to prepare for that possibility now.

NATO's air defense suppression forces were committed heavily to this campaign. U.S. systems such as RC-135 Rivet Joint electronic intelligence aircraft and EA-6B tactical airborne electronic warfare aircraft were employed in numbers roughly equivalent to those anticipated for a major theater war, and even then were heavily tasked. We need to find innovative and affordable ways to exploit our technological skills in electronic combat to bring greater pressure to bear on a future enemy's air defense system.

**Preferred Munitions.** The latest generation of air-delivered munitions was employed in substantial number for the first time in this conflict. We are gratified that weapons fired at fixed sites succeeded very well in hitting their intended targets and in producing the intended results, with limited collateral damage to civilians. In particular, the success achieved in delivering the new Joint Direct Attack Munition (JDAM) from altitudes above cloud cover demonstrated the wisdom of decisions taken after the 1991 Gulf War. Then, we faced similar constraints that allowed the enemy a sanctuary from attack when target areas were obscured in poor weather. In Kosovo, we operated under conditions in which there was at least 50 percent cloud cover more than 70 percent of the time, and yet we continued the campaign.

As expected, attacks on mobile targets proved more problematic than attacks against fixed targets. As with its air defenses, the FRY hid many of its mobile ground force systems, making them difficult to locate and attack. Concerns for limiting collateral damage also constrained us in some circumstances from attacks on possible ground force targets. On the other hand, by forcing the FRY to hide its ground maneuver forces and not operate them as units in the open, we greatly limited the Serb ground forces' combat effectiveness.

In some cases, only small inventories of the latest U.S. precision munitions were available for operations. Several of these systems, including JDAM and the Joint Standoff Weapon (JSOW), are in the early phases of production. Inventories of many of these weapons will be increasing dramatically over the next several years as a result of programs already funded by the Congress. Our success using these systems in Kosovo validates these production plans. In addition to weapons used and proven during Operation Allied Force, we have other precision weapons under development that will be coming to fruition later, including improved versions of the Tomahawk long-range cruise missile and the new Joint Air-to-Surface Standoff Missile (JASSM). We have been reviewing munition production and development programs carefully as we develop the FY 2001 defense program to ensure that they proceed at an appropriate pace and scope in light of experience in Kosovo. We have also requested that about \$1.4 billion of the supplemental funds available in FY 1999 be used to replenish stocks of preferred munitions used during Operation Allied Force.

**Aerial Refueling.** One of the most challenging aspects of Operation Allied Force was providing tanker support for transport aircraft delivering forces to the theater and for combat aircraft deploying to the theater and conducting strike operations. Aerial-refueling missions were particularly demanding because tankers operated, in many cases, from bases on the periphery of the theater. There were not enough air bases in the area immediately around Kosovo to support all the aircraft committed to Operation Allied Force. Strike aircraft were placed on bases closest to Kosovo, and longer-range tankers were based at locales farther away. Because of the basing arrangements, tanker missions were longer than would typically be the

case in a major theater war. Extensive tanker support was also needed for the global attack sorties flown from the continental United States by B-2 bombers. As a result of the longer missions, crew ratios for tankers participating in Operation Allied Force were higher than what we would typically plan. We met aerial-refueling demands by using reserve crews and by drawing on active crews assigned to aircraft that were in depot for modifications. While the demands for tanker crews were high, we were able to meet them with the forces planned for major theater wars.

Although we succeeded in providing the tanker support needed to sustain the air campaign, we are reviewing our tanker forces and crew ratios to determine whether they are sufficient to meet future needs in either major theater wars or other contingencies. We also found that our ability to plan in theater, in real time, for the most effective use of our tanker fleet was limited. The Department is reviewing options for improving this key planning capability.

**Cover and Concealment.** As already mentioned, the FRY employed concealment and deception tactics extensively. While reliance on cover and concealment protected much of the FRY force, it also precluded conventional maneuver operations in the field. Given that the United States may confront the use of similar tactics in the future, our limitations in being able to locate enemy forces under cover are being assessed, with emphasis on understanding how we can quickly develop and implement approaches to counter such tactics.

The ability to search and attack despite the cover of weather is one potential area for improvement. Technologies exist to provide high-fidelity radar penetration of cloud cover, for example. Similarly, the length of time needed to move from target location to target attack could be shortened. Capabilities exist to pass large targeting data files up the chain of command via digital data links. Unfortunately, some of these capabilities currently aren't sufficiently mature, in terms of both technical readiness and cost, to field across our forces. Until we are convinced they can be made affordable, we need to explore a mix of procedural as well as material improvements to enhance our capabilities in a way that will not force reductions in other essential parts of the defense program.

**Information Operations.** Successfully conducting operations to disrupt or confuse an enemy's ability to collect, process, and disseminate information is becoming increasingly important in this "information age" of warfare. The importance of such capabilities was recognized fully during Operation Allied Force, but the conduct of an integrated information operations campaign was delayed by the lack of both advance planning and strategic guidance defining key objectives. The Department will address this problem by developing the needed plans and testing them in exercises.

## **VIII. Other Lessons Learned**

**Task Force Hawk.** The deployment to Albania of Task Force Hawk, which included the Apache attack helicopters, has been widely discussed. This deployment presented numerous challenges:

- Basing the task force in Albania required accompanying ground forces to protect against a cross-border attack by Serbian ground forces.
- Conditions at the airport were poor, as was the weather. Therefore, constructing the improvements to the local infrastructure needed to permit wartime operations was particularly difficult, as was conducting needed training.
- Transporting the task force and its supporting elements competed directly with establishing and sustaining Joint Task Force Shining Hope, which provided humanitarian assistance to the Kosovo refugees.
- Although deployed independently, the units assigned to Task Force Hawk were organized, equipped, and trained to operate as an integral part of a larger land force, providing direct support to its operations and under the control of its commander. These units previously had trained for operations in regions with significantly different terrain and environmental conditions than those encountered in Albania and Kosovo. Apache aircrew training had been oriented toward areas that are predominantly open desert and have relatively flat terrain. Albania and Kosovo, however, are over 75 percent mountainous and have terrain with a 14 degree or greater slope. Apache pilots therefore had to develop navigation and piloting skills that were different from those previously emphasized.
- The same air defense system, including man-portable air defenses, that posed a threat to relatively high-altitude operations by fixed-wing aircraft posed a more substantial threat to low-altitude helicopter operations.

Overcoming these challenges required extensive training in theater, as well as development of a plan for integrating the Apaches into an air campaign not directly supporting a ground force. Operation Allied Force ended just as the needed training was completed and plans were developed.

It should be remembered that the decision to deploy Task Force Hawk was made at a time when persistent poor weather had been hampering air operations and NATO's tactics for attacking mobile targets in Kosovo were in the early stages of development. Under these circumstances, the contributions that the Apaches might make to prosecuting mobile targets in Kosovo were considered potentially worth the risks associated with their use. As the campaign progressed and the weather improved, the effectiveness of higher-flying fixed-wing aircraft improved and the benefits of Apache operations at low altitude were no longer judged to outweigh the risk of their vulnerability to shorter-range air defenses.

As we reflect on the challenges associated with Task Force Hawk, we recognize the need to regularly experiment with the innovative, independent use of key elements of all of our forces in the absence of their usual supporting and supported command elements.

**Effectiveness of the Air Campaign.** Air attack operations were designed to accomplish specific objectives. In turn, targets were selected with the goal of attaining these objectives in

the most efficient way possible, consistent with NATO's policies for conducting the campaign. NATO adapted its military operations and target sets as the campaign proceeded, based upon an improved understanding of what the best approach should be. Thus, the types and locations of targets changed as the campaign proceeded. An appraisal of the effectiveness of attack operations needs to be made in the context of these overall campaign goals as well as in terms of the performance of individual weapon systems.

NATO's air attacks clearly had an impact on military operations in the FRY. Air attacks on military forces in the field forced Serbian forces to remain largely hidden from view, traveling only under limited circumstances, and made them ineffective as a tactical maneuver force. Air attacks on selected infrastructure targets, such as bridges and electric power systems, degraded the ability of the FRY military to perform command and control and to resupply and reconstitute its forces. Together, these effects created political pressure on Milosevic to yield to NATO demands.

Intensive analyses of the results of our attacks were conducted as the campaign proceeded, based on the fullest available information. These analyses were essential to the formulation of campaign plans on a day-by-day basis. Subsequently, after the war's end, NATO conducted a new analysis of air attack effects, including visits to selected locations throughout Kosovo. This analysis, the Allied Force Munitions Effectiveness Assessment or "AF-MEA" report, addressed both fixed and mobile target attacks. An initial presentation of findings from the review of attacks on mobile targets already has been made public by the U.S. European Command. These two data bases, the wartime assessment and the postwar analysis, are the starting point for our subsequent analysis.

This further analysis is underway now to integrate the findings of all available data and to develop insights from those data on a variety of important topics. How good was our understanding of attack effectiveness as combat proceeded? What surveillance and reconnaissance systems proved most accurate and timely in delivering information critical to these assessments? What lessons can we draw from postwar examination of targets and target areas to modify or improve our battle damage assessment process? How should the inevitable uncertainty in the information be handled? For example, often targets were attacked by multiple systems, making an assessment of any single system's effectiveness nearly impossible. Further, judging the degree of impairment inflicted on a damaged, but not destroyed, target probably will always remain a source of uncertainty. New technologies, such as video imagery from munitions in the terminal attack phase, will likely help improve our assessment performance in the future, but a substantial degree of uncertainty will continue to exist in any future war.

**Unmanned Aerial Vehicles.** Unmanned aerial vehicles (UAVs) were used to an unprecedented degree in Operation Allied Force. The Army, Navy, and Air Force each employed UAV systems in the theater to conduct important reconnaissance operations, reducing the need to send manned aircraft into hostile airspace. These systems—the Army Hunter, Navy Pioneer, and Air Force Predator—reflect the state of the art in ground control and mission planning capabilities, airworthiness, and mission payloads. Other NATO members also contributed UAVs to the operation. German Droner UAVs were used to conduct battle damage

assessments and to detect emerging targets in Kosovo. French and British UAV systems took part in the operation as well.

U.S. development of enhanced UAV capabilities is being pursued in programs such as Global Hawk. Lessons learned in operations over Kosovo will help in refining our plans for such longer-term UAV programs.

Improved mission planning, improved processes for interaction between UAV operators and manned aircraft, frequent and realistic training opportunities, and equipment upgrades for individual UAVs all would benefit future force effectiveness. While a significant number of UAVs were lost, their ability to loiter over hostile territory enabled them to provide surveillance information unavailable otherwise and avoided the risk of losing aircrews. Moreover, UAVs are designed deliberately to be expendable, with acceptable cost a higher priority than survivability. UAV losses during Operation Allied Force totaled 15 air vehicles, most of which are believed to have been lost to hostile action. Analysis of UAV operations is ongoing.

**Humanitarian Crisis.** Milosevic's decision to launch Operation Horseshoe in early March resulted in the systematic "cleansing" of 850,000 ethnic Albanians from Kosovo. These people were forced at gunpoint to flee to Albania and Macedonia, where, initially, there were few means available to support them. Milosevic's actions revealed his true purposes to the world community, helping to solidify its support for the continued NATO air campaign. He also, however, created the potential for a humanitarian disaster that could have destabilized Albania and Macedonia and made continued prosecution of the air campaign problematic.

Operation Shining Hope provided shelter and prevented mass starvation among the Kosovars who were expelled by Milosevic. From April 3 through the end of Operation Allied Force and beyond, more than 500 sorties were flown to deliver urgently needed humanitarian supplies. This was a truly multinational effort. Overall, the United States contributed about 20 percent of the humanitarian assistance provided by the international community to the Kosovo theater. Approximately 10 percent of the 90,000 Kosovo Albanian refugees who were evacuated from Macedonia to third countries were accepted into the continental United States. The United States also constructed a refugee camp in Albania supporting 20,000 refugees, and was in the process of constructing two additional camps when the conflict ended. This and the other actions taken by NATO and the world community saved thousands of lives and prevented Milosevic's campaign of terror from achieving its cruel objectives.

Humanitarian operations connected to the Kosovo crisis highlighted the importance of certain resources. For example, the shortage of linguists and civil affairs personnel was acute in the early stages of the operation. Engineering assets, capable of emergency repair of roads and bridges in very austere environments, were also in short supply, as were detailed maps of the relevant areas. Prepositioned stocks of tents, water bladders, and other items located in the theater were used extensively.

## **IX. Personnel and Readiness**

The overall levels of readiness and training of U.S. forces deployed during Operation Allied Force, both active and reserve components, were superb. The ability to plan, conduct, and sustain complex integrated operations of this kind demonstrated a very high level of professional skill and that the overall material resources provided were adequate for the task at hand. Losses due to accidents were few; indeed, they were even below levels typically anticipated in peacetime operations. The capability of U.S. forces to achieve this degree of success is reassuring, but must be tempered by an understanding of the indirect costs in terms of reduced readiness in U.S.-based forces and the post-conflict “reconstitution” expenses necessary to restore the deployed forces to a satisfactory steady-state operational tempo. Further, as discussed elsewhere, certain key force elements were deployed to this conflict as a very high proportion of their total inventory. Recognizing the challenges presented by the Kosovo operation, the Department is reviewing its planning for both peacetime and wartime readiness.

We have discussed how our troops quickly solved the problems associated with the limited transportation infrastructure in Albania; how our engineers and other support personnel quickly constructed refugee facilities and distributed supplies providing critically needed shelter and preventing starvation; and how our pilots and their commanders quickly developed and implemented tactics and techniques to successfully attack Milosevic’s elusive forces in Kosovo. These and their many other accomplishments make it clear that our people made Operation Allied Force a success. They were well-trained, disciplined, and creative. Their ability to overcome the many challenges they faced through initiative and innovation is unrivaled among the world’s military forces. The paramount lesson learned from Operation Allied Force is that the well-being of our people must remain our first priority.