



Final Report

"Arms Control in the 21st Century"

Washington, D.C.
6-7 August 1996

Sponsored by
HQ USAF, National Security Negotiations Division
and
Institute for National Security Studies

Contract F08650-95-D-0057
Science Applications International Corporation
1710 Goodridge Drive
McLean, Virginia 22102

19990708 093

Arms Control in the 21st Century

DTIC QUALITY INSPECTED 4

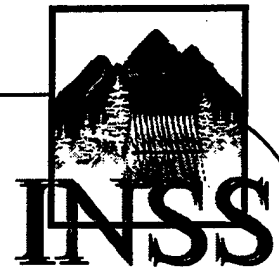
DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited

/REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE (DD-MM-YYYY) 07-08-1996			2. REPORT TYPE		3. DATES COVERED (From - To) 6-7 Aug 1996	
4. TITLE AND SUBTITLE Arms Control in the 21 st Century					5a. CONTRACT NUMBER	
					5b. GRANT NUMBER	
					5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S): Sponsored by HQ USAF/XONP (National Security Negotiation Division) & HQ USAFA/DFES (USAF Institute for National Security Studies). Edited by Science Applications International Corp, McLean, VA					5d. PROJECT NUMBER	
					5e. TASK NUMBER	
					5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) HQ USAFA/DFES USAF INSS 2354 Fairchild Dr., Ste 5L27 USAF Academy, CO 80840					8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) HQ USAFA/DFES USAF INSS 2354 Fairchild Dr., Ste 5L27 USAF Academy, CO 80840					10. SPONSOR/MONITOR'S ACRONYM(S) HQ USAFA/DFES, HQ USAF/XONP	
					11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT A Approved for public release; distribution is unlimited.						
13. SUPPLEMENTARY NOTES						
14. ABSTRACT The tropical Areas covered in "Arms Control of the 21 st Century" were: • Strategic Offensive Arms Control • Strategic Defensive Arms Control • Conventional Arms Control and • Regional Arms Control In addressing these issue areas, the working groups focused on a broad set of objectives including: • Examining US arms control experiences of the past to determine if there are lessons learned that could enhance future US arms control effort • Ascertaining the efficacy of arms control as a national security tool in the 21st century by exploring possible strengths and weaknesses in the concept and US reliance upon it. • Identifying how arms control will be used to enhance stability and security in the emerging international order, and • Developing alternative US and Air Force responses to future arms control scenarios						
15. SUBJECT TERMS USAFA						
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT		18. NUMBER OF PAGES	
a. REPORT UNCLASSIFIED	b. ABSTRACT UNCLASSIFIED	c. THIS PAGE UNCLASSIFIED	UNCLASSIFIED UNLIMITED		348	
					19a. NAME OF RESPONSIBLE PERSON DR. JAMES M. SMITH	
					19b. TELEPHONE NUMBER (include area code) 719-333-2717	



Executive Summary

Arms Control in the 21st Century

Executive Summary

The U.S. Air Force Institute for National Security Studies (INSS) in cooperation with HQ U.S. Air Force National Security Negotiations Division (AF/XOXI) sponsored the "Arms Control in the 21st Century" Conference on 6-7 August 1996. The purpose of the Conference was to examine the future of arms control and its implications for the United States and the U.S. Air Force. The Conference was structured to draw upon the background and expertise of recognized specialists from a wide range of organizations including the military services, the Joint Staff, professional military education (PME) schools, think-tanks, and private industry.

Welcoming remarks were made by Col (S) Todd Bodenhamer, Chief of the National Security Negotiations Division, and Lt Col Pete Hays, Director of the Institute for National Security Studies.

Mr. Bob Bell, Special Assistant to the President for National Security Affairs and Senior Director for Defense Policy and Arms Control at the National Security Council provided the opening address. The address provided the intellectual foundation for the Conference and an overview of current administration efforts and policy regarding arms control.

Following the opening address, the Conference proceeded with a plenary panel presentation which provided an overview of past arms control accomplishments and addressed how these lessons might apply in the twenty-first century. The plenary panel was followed by the formation of four concurrent working groups, each of which addressed an issue of singular importance to the overall concept of arms control. The topical areas covered were:

- Strategic Offensive Arms Control,
- Strategic Defensive Arms Control,
- Conventional Arms Control, and
- Regional Arms Control.

In addressing these issue areas, the working groups focused on a broad set of objectives including:

- Examining U.S. arms control experiences of the past to determine if there are lessons learned that could enhance future U.S. arms control efforts.
- Ascertaining the efficacy of arms control as a national security tool in the twenty-first century by exploring possible strengths and weaknesses in the concept and U.S. reliance upon it.
- Identifying how arms control will be used to enhance stability and security in the emerging international order.

- Developing alternative U.S. and Air Force responses to future arms control scenarios.

The second day of the Conference began with a plenary panel which presented alternative views on the future of arms control in U.S. national security planning. Following the presentations, the conference participants returned to their working groups to continue the prior day's discussions.

The Conference concluded with a plenary panel of the working group chairmen, who presented the results of their groups' proceedings and findings.

Ambassador Ron Lehman, Assistant to the Director of the Department of Energy's Lawrence Livermore National Laboratory (LLNL) gave the keynote address at a banquet for all Conference participants.



Opening Session

Arms Control in the 21st Century

Opening Presentation

Mr. Bob Bell, National Security Council

Mr. Bell is the Special Assistant to the President for National Security Affairs and Senior Director for Defense Policy and Arms Control at the National Security Council. He provided the Conference's opening presentation.

Introduction

Mr. Bell stated that despite popular arguments to the contrary, arms control is not dead; rather, it is changing. He stated that traditionally arms control provided three basic objectives: lowering the cost of maintaining national security; decreasing the likelihood that war will occur through the elimination of destabilizing weapons; and limiting the level of damage should war occur through the reduction or elimination of weapons of mass destruction (WMD). He stated that while arms control may not generate the cost savings traditionally expected, it does contribute to overall stability and the security of the United States. He cited the pending Comprehensive Test Ban Treaty (CTBT) as an example of this. To maintain a policy not to test nuclear weapons will cost the United States approximately \$4 billion, due to the increased challenges of maintaining confidence in the nuclear stockpile without testing. Despite this expense, the CTBT will enhance international stability as well as U.S. security. CTBT will inhibit the development of new nuclear arsenals and limit the modernization of those currently in existence.

Mr. Bell offered a caveat to U.S. arms control efforts in general, and test-ban activities in particular, stating that the national security community needs to coordinate its arms control efforts better and support the decisions made. For example, if the United States is not going to test its nuclear stockpile, then everyone in the arms control community needs to support, both in terms of policy and funding, the Department of Defense and the stewardship of the nuclear stockpile. Funding for stockpile stewardship, he concluded, will ensure the United States' ability to play a leading role as a non-testing nuclear power; it will also instill confidence in the nation's nuclear force.

The arms control community needs to develop and maintain a cohesive and consistent approach; this will ensure the United States will be adequately prepared for the challenges of the future. To achieve this the United States must have a common foundation for arms control policy in the twenty-first century; this foundation is provided through strategic deterrence, according to Mr. Bell. To ensure the efficacy of its strategic deterrent, the United States must ensure that it is able to maintain and deploy a robust comprehensive package of military systems well into the next decade. These forces and the capabilities they provide are the backbone of U.S. strategic deterrence efforts.

Following his introduction, Mr. Bell provided an assessment of current activities in the four topic areas covered by the Conference: strategic offensive, strategic defensive, conventional, and regional arms control.

Strategic Offensive Arms Control

Mr. Bell began by stating that the START treaty is at a crossroads for U.S. arms control efforts. President Clinton has ordered that START I force levels be maintained until START II and other U.S.-Soviet arms control agreements, including the Intermediate-Range and Shorter-Range Nuclear Forces Treaty (INF) and the Anti-Ballistic Missile Treaty (ABM) are accepted by the Newly Independent States (NIS) of the former Soviet Union. According to presidential directive, once these agreements are finalized, the Administration will decide its position on START II. He noted as an aside that if START II force levels are not implemented, enormous increases in spending will occur in order to maintain START I force levels. Regardless of its resolution, he continued, START II is not an end in and of itself; rather, it is part of a continuing process. Mr. Bell suggested the United States should begin to look toward START III, particularly how the United States will begin the negotiating process with the Russians. The United States should also consider how it will define the minimum number of strategic weapons that will be able to ensure strategic deterrence. He also suggested that in light of the U.S. commitment to total disarmament, domestic law and international treaty, the United States should consider how this ought to be factored into the strategic offensive arms control equation. He concluded that a discussion for a pathway to this end needs to begin now.

Strategic Defensive Arms Control

Mr. Bell stated that while the end of the Cold War brought a relaxation of tensions between the United States and the countries of the former Soviet Union and reduced concerns about a super power nuclear war, the threat of a nuclear exchange has not been eliminated. The changing environment has created substantial uncertainty in terms of threats and, therefore, in preparing for defense against non-state actors. Due to these changing and elusive threats, the national missile defense (NMD) program has concentrated its efforts on ensuring the protection of the United States against limited missile attacks, as well as on defending theaters against shorter-range ballistic missiles. Mr. Bell reiterated that any NMD system deployed by the United States would not defend against the accidental or unintentional launch of strategic ballistic missiles of the FSU, rather it would defend against the more immediate threats presented by rogue states and non state actors. Given the urgency of this situation, he suggested that the United States needs to develop a NMD program that is consistent with Anti-Ballistic Missile Treaty. This is necessary if the system is going to be deployed by the end of the century. Mr. Bell concluded his comments on strategic defensive arms control by stating that the focus of current NMD efforts is on fielding improvements to existing defensive systems, not the deployment of new systems. According to Mr. Bell, the focus of the U.S. NMD program is on ensuring "deployment readiness."

Conventional Arms Control

Since 16 May 1996, Mr. Bell stated, the United States has focused its conventional arms control efforts on negotiating a worldwide ban on landmines. However, between now and the time a treaty is drafted and enforced, the United States will maintain the right to use landmines wherever its personnel are in danger. Furthermore, he continued, the United States will reserve the right to use landmines in Korea even after such a treaty is signed. He stated that once landmines are banned, countries will have to cover the flanks of maneuvering forces with increased air power. Since only a few countries currently using landmines maintain an air force, and even fewer still could afford the increased spending to boost their air power, the elimination of landmines faces substantial obstacles. He cited Korea as an example, stating that landmines could be eliminated only if strategic tensions were eliminated or if it became possible to defend South Korea, especially the areas north of Seoul, without the use of landmines.

Regional Arms Control

In the area of regional arms control, Mr. Bell stated, the Treaty on Conventional Forces in Europe (CFE) is in need of modernization and adaptation. Since the treaty was signed by 22 members of NATO and the former Warsaw Pact, the latter of which no longer exists, CFE needs to be revisited. Noting the changing security environment which has emerged in the aftermath of the Cold War, as well as the fact that eight of the former Soviet states assumed the rights and obligations of the FSU provided for in the CFE Treaty, Mr. Bell concluded the treaty needs to be modified to reflect these dramatic changes. He also cited the economic and political turbulence that has plagued Eastern Europe since the dissolution of the Warsaw Pact and the Soviet Union as further evidence of the need to modify the CFE Treaty. He concluded by stating that completion of a revised version of the treaty needs to occur in the next few years before it becomes unenforceable.

Conclusion

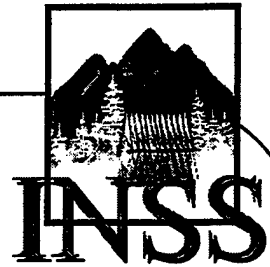
By its very nature, arms control is constantly evolving to reflect the changing international environment, which results in the creation of new concepts and values. For example, the balance provided by the strategic relationship of the United States and the Soviet Union no longer exists, and the fear of strategic nuclear weapons has been replaced with such consternations as the use of chemical weapons. This, according to Mr. Bell, has resulted in even more difficult arms control questions, such as determining an acceptable response to the use of chemical weapons. He concluded by stating that while the number of players and affected areas have broadened, the types of weapons have changed, and the manner in which negotiations are conducted has been transformed, the basic tenets and objectives of arms control remain the same. Furthermore, the complexity of treaties will increase in a multipolar world. Despite this, the United States

and the international community need to ensure continued adherence to these treaties by newly independent states. This is the aim of arms control in the twenty-first century.



Plenary Panel Presentations

Arms Control in the 21st Century



Plenary Panel Presentations

Panel 1:

"Lessons Learned from Arms Control"

Arms Control in the 21st Century

Plenary Panel 1, "Lessons Learned from Arms Control"

Moderator: Dr. James Wirtz, Naval Postgraduate School

Participants: Ms. Mary Margaret Evans, Arms Control Implementation and Compliance
Dr. Kerry Kartchner, Arms Control and Disarmament Agency
Dr. Peter Lavoy, Naval Postgraduate School

Overview, Dr. James Wirtz

Dr. Wirtz's opening theme postulated that as the United States continues to comply with arms control agreements, the force level drawdown which we have experienced may in some instances be unequal to treaty partners and therefore may be creating instability in the international environment. As a result, he suggested if some disagreement between the parties should occur, we could find ourselves in an untenable position. This raises ancillary questions, such as whether the international military balance is technically stable in its own right or if it is only stable given existing political relations. Dr. Wirtz maintained that we could find ourselves caught in an indefensible position should there be a change in the political situation of the moment. This, he felt, is the primary challenge of arms control for the future; providing for military reductions that can weather changes in the political environment. Toward that goal, we should review the lessons learned from previous and current arms control experience.

Presentations

"Conventional Arms Control," Ms. Mary Margaret Evans

Ms. Evans suggested that when one speaks of the lessons learned from conventional arms control, the inevitable issue is to determine what lies beyond the Treaty on Conventional Forces in Europe (CFE). In light of this, the Office of the Assistant Secretary of Defense for Policy is investigating alternatives for the post-CFE world, and conducting studies and analysis to attempt to resolve issues and questions that could arise. Generally, it is argued, future agreements could include additional limits or reductions on treaty-limited equipment (TLE), new categories of TLE, newly defined national limits, or perhaps even a new zonal arrangement which would reorganize the current East-West zone arrangement.

These approaches, according to Ms. Evans, generally are intended to address the changing nature of the East-West division in Europe, notably the movement of Poland toward the West. She stated that the mathematical calculations of CFE limits are seriously disturbed if Polish TLE limits are included in those ascribed to the "Western" side of the equation. Furthermore, it is not certain that the current approaches truly address the "real" security needs of Europe today. If one looks at the relations between the United States and the former Soviet Union, treaties were drafted in an attempt to address the symptoms of the relationship (force levels) because it was not possible to do anything about the root cause of the conflict (socio-political differences.)

Complicating the situation is the fact that force disparity between the East and West does not seem to be the central concern of Europeans, according to Ms. Evans. When Central Europeans were asked, for example, whether they would prefer membership in NATO or the European Union (EU), they wanted the economic partnership before the security relationship. This preference reflects their current needs and concerns: environmental degradation, economic stagnation, industrial malaise, ethnic strife, and a large refugee population. If the United States pursues a "business as usual" approach to arms control, it will not meet these primary concerns.

Therefore, she concluded, it seems reasonable that the United States needs to change the way it approaches arms control and change the focus of the negotiations. She noted that not since the creation of the Marshall Plan at the end of World War II have we taken a broad approach toward national security. While some of Secretary Perry's recent speeches have begun to pick up some of these themes, Ms. Evans maintains that we need to rediscover Gen Marshall's approach to European security by treating causes of conflict rather than the symptoms.

"Strategic Offensive and Defensive Arms Control," Dr. Kerry Kartchner

Dr. Kartchner chose to address three areas related to strategic offensive and defensive arms control: lessons learned from formulating arms control, lessons learned from negotiating nuclear arms control, and lessons learned from implementing arms control. In addressing the first area, Dr. Kartchner pointed out that we have held nuclear weapons for fifty years now without engaging in a nuclear war, but there is a question as to what role arms control has played in that fact. The classic objectives of arms control are to deter war, save money, and to limit damage should war occur.

Has arms control deterred nuclear war? This is unclear, but it seems that any contribution has paled in comparison to the role the weapons themselves played in deterring war. According to Dr. Kartchner, arms control did not promote a convergence on thinking about strategic stability, nor did it revolutionize Russian thinking. The one area in which it can be said arms control has contributed toward the deterrence of nuclear war, Dr. Kartchner suggested, is in enhancing communication and contributing to the development of political regimes between the United States and the former Soviet Union.

Has arms control saved money? In the early days of nuclear arms control this may have been so. But in the 1980s the cost of nuclear arms control, in the form of the INF agreement, rapidly escalated as intrusive verification regimes became the norm. Efforts in the area of ABM also have contributed to increased costs. Any savings observed in strategic modernization had in fact been a result of force planning by Secretary MacNamara not from arms control reductions. Therefore arms control cannot claim responsibility significant contribution in that area.

Has arms control limited damage? Again, Dr. Kartchner stated, the contribution

made in this area can be said to be negligible. It is true that the total megatonnages possessed by the two sides have declined, but in large part this is due to budgetary constraints rather than through formal negotiation. In some respects, the negotiated agreements only formalized what financial hardship had made inevitable. In Dr. Kartchner's view, the failure of arms control to help limit damage has been its single greatest shortcoming. It is hoped that implementation of START II, and the lower stockpile levels mandated by that agreement, may at last begin to make an actual contribution to limiting the potential damage from a nuclear war.

In terms of the lessons learned from the negotiation of nuclear arms control, Dr. Kartchner recommended the writings of Ambassador Ed Rowney as required reading. As far as the lessons learned from implementing arms control, Dr. Kartchner pointed out that few people recognize that, the real work of arms control begins following signature and ratification. The act of reaching agreement and ratification of an agreed text does not mean that all work has been accomplished. For example, there have been fifty supplemental agreements reached in the Joint Compliance and Inspection Commission (JCIC) for START I. It is important that treaty implementation scrupulously adhere to and comply with the terms of a treaty.

Dr. Kartchner concluded that it must be remembered that arms control is but a singular adjunct to our overall national security, and one should be careful in placing undue emphasis on the role of arms control. By its very nature, arms control is a political exercise more than a technical one. At the heart of arms control is an exercise in building legal agreements; it works best therefore with law abiding people.

"Regional Arms Control," Dr. Peter Lavoy

Dr. Lavoy maintains that there are some very basic issues at the heart of regional arms control, notably nonproliferation, counterproliferation, and disarmament. Again, the three purposes of arms control were raised, in this instance as essential elements to understanding regional arms control: to lower the risk of war, to reduce costs, and to reduce the damage of war should it occur. However, Dr. Lavoy suggested, one must move beyond these three tenets to also define concepts for regional arms control. For example, is nonproliferation truly "arms control," or is it something else entirely, like disarmament? To paraphrase Clausewitz, arms control can be seen as security by other means.

Dr. Lavoy cited the Non-Proliferation Treaty (NPT) and the belief within the United States that it lowers the risk of nuclear war, as an example of the efficacy of arms control. However, he continued, non-nuclear weapon states have a very different view of NPT. To them, it is not an arms control agreement, rather an arms limiting agreement: in that it prevents them from developing weapons which others already have developed. This raises the question as to why they agreed to give up their sovereign right to develop nuclear weapons? The answer, according to Dr. Lavoy, must be that they were and are convinced that NPT despite its limitations is in their best interest. He suggested that it is

important to also consider the position of non supporters of the NPT. To them, the NPT is an effort at disarmament; therefore, they oppose any negotiated efforts that would require them to eliminate weapons they would otherwise choose to possess.

Dr. Lavoy suggested this situation leaves us with two potential sets of solutions. The first is to persuade countries to see nonproliferation as security enhancing, emphasizing the positive nature of improved national security rather than the negative aspect of losing the ability to develop weapons. The second solution is directed primarily at "rogue" states and emphasizes counterproliferation as an alternative. Dr. Lavoy stated that the potential problem lies with nations such as India, Pakistan, and Israel, and how the United States should deal with these countries. Arms control efforts may be of the greatest relevance with these countries. But how do we encourage these states to think of security so they see arms control as a worthwhile endeavor?

Conclusion, Dr. James Wirtz

In summation, Dr. Wirtz noted that discussion continued to address the three principles of arms control. It seems to be the prevailing opinion that arms control plays little role in reducing overall costs, and may in fact contribute to increased costs given the intrusive nature of most modern verification regimes. Arms control, however, is seen as playing some role in reducing the risk of war, since negotiations are better than the alternative. And as far as whether arms control reduces the damage of war, Dr. Wirtz suggested there may be an element of truth in this given the reduced numbers or capabilities of arms limited by agreement.

However, he stated, one must also address other goals for future arms control efforts. For example, shifting military strategy away from nuclear weapons, expansion of the Revolution in Military Affairs (RMA), the growing threat of information warfare, and the spread of precision weapons. Moreover, there are opportunity costs associated with arms control. For example, the Comprehensive Test Ban Treaty will inevitably lead to a reduced confidence level in nuclear stockpiles. While mathematical modeling of the reliability and safety of the stockpile can be accomplished to some extent, it will never carry the level of certainty provided by actual testing. Thus, Dr. Wirtz concluded, perhaps now we should move arms control from our focus on weapons and systems to the arena of underlying problems.

Discussion

One question raised during discussion was whether a future CFE agreement might not concentrate on conventional forces in Europe, but rather European conventional forces, thus putting the emphasis on national forces rather than block forces. An ancillary question would be whether the United States would be willing to accept national limits on our forces? One very interesting point was made that the Department of Defense contributes only 15% of the economic aid to Central Europe, with the bulk of the remainder coming from the Department of State. Therefore, it is unclear why more of an

effort in the area of security is not made by the Department of State.

While one of the benefits of CFE certainly has been to reduce the levels of conventional materiel in the former Soviet Union, perhaps the more important benefit has been the development of military-to-military contacts. These have provided a channel of communication that strengthens the developing relationship between the West and the emerging states in the East. There was a great deal of discussion from this point and on the point made earlier that future arms control efforts may need to concentrate less on the symptoms of conflict and more on the causes. It was felt that these military contacts may be one way to address some of the root causes of conflict before they become overt expressions of the tensions. Along these same lines, if CFE and CSCE were, in fact, discussions on the future European environment, the "real" talks should occur in Europe, not in the Department of State. One suggestion was to use NATO's Partnership for Peace as a forum to discuss the European environment. In this way, Russia could be included in the discussions, without requiring their membership in NATO itself.



Plenary Panel Presentations

Panel 2:

"The Future of Arms Control"

Arms Control in the 21st Century

Plenary Panel 2, "The Future of Arms Control"

Moderator: Dr. David Kay, Science Applications International Corporation

Participants: Ambassador Jonathan Dean, Union of Concerned Scientists

Mr. John Isaacs, Council for a Livable World

Mr. Joseph Pilat, Los Alamos National Laboratory

Mr. Brad Roberts, Institute for Defense Analyses

Overview, Dr. David Kay

In his introductory presentation, Dr. Kay outlined five issues for the future of arms control: (1) Is the future *deja vu*? In other words, is the United States simply looking at reducing numbers of, or delivery platforms for, weapons (2) Is total elimination of nuclear weapons in the future? (3) Does the future point to controlling the advancement of existing weapons systems, leaving currently advanced countries at an advantage? (4) Does the future arms control agenda adequately address the widespread ability to disrupt international order, both by states and by non-state actors? And finally, (5) Will the future national security paradigm evolve into a defense-dominated posture, with less power projection and more defense of societies in an increasingly dangerous world? With these thoughts in mind, Dr. Kay introduced the panel and yielded the floor to the panelists.

Presentations

Mr. John Isaacs, Council for a Livable World

Mr. Isaacs presented the thesis that the a robust future for arms control is contingent upon negotiators focusing on solving the underlying problems that lead to conflict (demand-side arms control), rather than seeking to limit the weapons used in conflict (supply-side arms control). He suggested that recent advances in arms control, and the near-term future agenda of arms control, point to the supply side of arms control. He cited the Comprehensive Test Ban Treaty (CTBT); strategic arms reductions; Chemical Weapons Convention (CWC); control of weapons materials; and numerous conventional arms control initiatives, such as the landmine ban, as examples of supply-side arms control.

In the twenty-first century, however, if the focus were to shift to solving root causes rather than focusing solely on weapons limitations, or at the very least used in conjunction with the more traditional numbers-based approach to arms control, international stability would be longer lasting. Mr. Isaacs cited three examples in support of this theory: the Kashmir issue in South Asia, tensions on the Korean peninsula, and the Middle East. While all three regions benefit from arms control measures, he stated that the best solution would be one that resolves the tensions which lead to armament in the first place. Mr. Isaacs then offered three examples of successful political resolutions which led to reductions in armaments and the creation of more stable environments in

their respective regions: South Africa, Argentina-Brazil, and, to some degree, the U.S.-Soviet/Russian situation.

Ambassador Jonathan Dean, Union of Concerned Scientists

Ambassador Dean drew a stark comparison between two possible 2025 worlds. The first was a world in which no nuclear weapons remain under the control of a single state. Instead, he described a situation where an extremely limited number of weapons remained deployed at key locations around the globe, under the dual control of the UN Security Council and the nuclear weapon states. He suggested that this end state will have been made possible only after a number of key milestones are met, among them a U.S.-Russian agreement on fissile material production, progressive reduction in the number of nuclear weapons in all nuclear weapon states, dismantlement of the treaty-eliminated warheads and safe storage of the fissile material, a ban on all long-range ballistic missiles, and an expanded Security Council that incorporates Brazil, India, South Africa, Japan, and Germany. With this new system of security in place, Ambassador Dean concluded there would be a reduced incidence of organized, state-sponsored violence, thereby making disarmament easier to attain.

The second future scenario envisioned by Ambassador Dean is a dangerous environment characterized by a general lack of democracy in many key regions throughout the world, a growing number of nuclear-armed states, ideological and religious conflict spreading across the globe, a newly emerged hegemonic China and a resurgent nationalist Russia.

In order to bring about the first scenario and prevent the second, Ambassador Dean posited that democracy and major power cooperation were absolute pre-requisites, pointing out that democratic societies wage war against one another much less frequently than nondemocratic societies. In particular, Ambassador Dean pointed to the necessity of facilitating democracy and building peace in China and Russia if the world is going to move toward the direction of progressive elimination of weapons of mass destruction and away from armed conflict. Ambassador Dean concluded that these types of foreign policy initiatives must be undertaken in conjunction with future arms control activities, if arms control is going to maintain a central role in global security and stability.

Mr. Brad Roberts, Institute for Defense Analyses

Mr. Roberts posed a dual question in his presentation: (1) Does arms control have a future? (2) Should arms control have a future? He based his theory on three main nodes of activities: implementation and expansion of the East-West agenda, implementation and expansion of multilateral regimes and enforcement mechanisms, and implementation and expansion of regional arms control measures. He suggested that each node of activity has challenges, citing the future of Russia's commitment to reform and arms control, as well as its capabilities to fulfill existing obligations, as examples of difficulties encountered in terms of the East-West relationship.

Mr. Roberts also stated the future of arms control is further jeopardized because the United States embraces multilateral arms control efforts only tepidly. The difficulty in this situation is compounded because the U.S. role in regional arms control is no longer as clearly defined as it was during the Cold War, when regional interests were incorporated into the global East-West balance. Overall, Mr. Roberts concluded, what will characterize the role of arms control in the future is that it no longer will be a matter of U.S. national survival, and as such, political advocates and financial resources will be more difficult to secure.

Mr. Roberts identified six national security objectives which could be served by arms control, and effective involvement with these activities could ensure its survival well into the future: (1) coping with technical diffusion; (2) insulating the state system from collapsing states, weak states, and nonstate actors; (3) maintaining stable relations among the great powers, particularly the nuclear weapon states (NWS); (4) engaging and integrating aspiring powers into the current world structure; (5) punishing transgressors; and (6) engaging the United States.

Technical diffusion. It is necessary to accept the fact that technology will spread--particularly dual-use, civil-military, and bio-technologies--and this will enable states to enhance their military capabilities. To minimize the risk inherent in this environment, Mr. Roberts suggested several measures that can be taken. The foremost of which is channeling technology transfers away from risky end-users and focusing on the more peaceful uses of technology. In addition to this, he recommended making transfers more transparent, engaging the private sector in responsible technology management, and enforcing or extending the normative context. He concluded that arms control and export controls can play a role in controlling nuclear, chemical, and biological weapons-related technology.

Insulating the state system. Risk of proliferation is minimized when the international community is stable. Collapsing states, weak states, and nonstate actors upset international stability, a situation which is exacerbated by weapons proliferation. Thus, actions such as preventing arms proliferation in weak or collapsing states, as well as delegitimizing aggressive nonstate actions in the international arena, mitigate risk, increase security, and make arms control easier to implement.

Stable NWS relations. Maintaining stable relations among the world powers, particularly the nuclear weapon states, is critical for making progress in arms control and disarmament. Mr. Roberts cited ensuring favorable relations between China and Russia as particularly important to maintaining the current momentum.

Aspiring powers. It is necessary for the United States to accept change as fundamental to the international environment. More importantly it should not view balance-of-power as a zero-sum game. Growing powers do not necessarily pose a threat to the status quo; rather, many emerging powers want to contribute to and enhance the

international security regime to improve their national situation and international position. The United States should endeavor to develop stronger ties with emerging powers, to contribute to international security.

Punishing transgressors. It is necessary to develop and uniformly enforce rules for the international conduct of states. Furthermore, no one state should be called upon to continually enforce these rules or punish transgressors. It is imperative that these actions be undertaken by the international community as a whole. In support of this objective, the United States should strive to help define normative patterns and mobilize multilateral institutions in support of maintaining those norms. However, in the process of doing this, it must avoid being too assertive and creating international resentment or extending its obligations beyond the level of domestic interest and support.

Engaging the United States. Least apparent to the United States, according to Mr. Roberts, is the need to engage more fully in the international arena. Although the sole remaining superpower, the country nonetheless has been simultaneously battling neo-isolationist tendencies and growing assertiveness by regional powers. It is necessary for the United States to understand that its power, while contested at times, will also be essential for maintaining peace at other times. The United States needs to accept this situation and learn to finesse it.

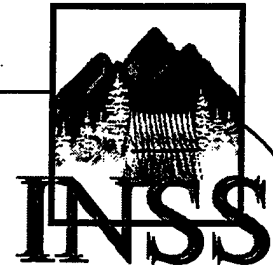
Mr. Roberts concluded that arms control in the future may serve as a primary method of engagement. It will most likely be used by the United States and the international community as the main venue for building international confidence and stability, as well as for responding to the challenges that might undermine it. Mr. Roberts concluded that the United States is, and will remain, the primary state actor responsible for mobilizing unilateral, bilateral, multilateral and global trends and institutions in the ongoing effort to maintain peace and contain conflict. Finally, he asserted that the trends in arms control will likely follow a shift from negotiations to engagement; from bilateralism to multilateralism; from nuclear-dominated to nuclear, chemical, and biological in focus; from formal to informal; and from self-restraint on the part of the United States to having the United States as guarantor and mobilizer.

Mr. Joseph Pilat, Los Alamos National Laboratory

Mr. Pilat began by asserting that the current arms control agenda, which was inherited for the most part from the Cold War, is restricted by links to the past. The future agenda, despite its many familiar items, will differ from the past agenda by expanding from a bilateral to a multilateral orientation and embracing nonproliferation as the standard over deterrence. Mr. Pilat also stated that new tools are being developed to fulfill objectives of the new agenda, citing the Nunn-Lugar program as an example. Despite these trends, future arms control actions will also come in the bilateral U.S.-Russian sphere, primarily in the areas of chemical and biological arms control, managing technology diffusion, and stemming the proliferation of sensitive technical knowledge to dangerous parties. Technology in particular poses some of the greatest challenges for

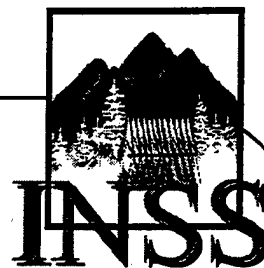
future stability, especially in terms of the emergence of numerous competing issues that have objectives which are often at odds with arms control. The most obvious of which is the growing significance of exporting commercial technology.

In addition to technology, there are also numerous challenges that arise when considering complete nuclear disarmament. Of these obstacles, resource constraints present one of the greatest challenges. Mr. Pilat stated that disarmament is an expensive proposition, not the dividend-generating activity many think it is. This alone makes disarmament, especially for the struggling economies of the former Soviet Union, an unlikely proposition. Furthermore, differences over how to approach disarmament may be as challenging as completing the final first steps of disarmament. One of the main reasons for this is that arms control measures and processes may be reversed, if political or technical changes occur. Mr. Pilat also stated that action on the arms control agenda is driven primarily by politics. Politics demands that negotiations be shorter, accountability for elimination of unverifiable items be increased, and that verification be more cost-effective. Mr. Pilat also predicted that, there will be more reliance on ad-hoc arms control rather than formal arms control in the future, and even a pronounced tendency toward unilateral arms control. Finally, he concluded that arms control will become more oriented toward multilateralism and regionalism rather than the bilateralism, that dominated during the Cold War.



Proceedings and Findings

Arms Control in the 21st Century



Proceedings and Findings

**Working Group 1:
"Strategic Offensive Arms Control"**

Arms Control in the 21st Century

Working Group 1: Strategic Offensive Arms Control

Chairman: Mr. Forrest Waller, SAIC
Rapporteur: Mr. Greg Blaisdell, SAIC
Panel Participants: Mr. Richard Bowen, DOE
Lt Col Brandy Buttrick, ACDA
Mr. Stanley Kober, Cato Institute
Lt Col Terry Godsby, ACDA
Mr. Art Kuehne, ACDA
Lt Col Jim Mammen, OSIA
Lt Col Dick Newton, J-5
LTC Ed Peluso, J-5
Dr. George Pitman, ACDA
Ms. Jane Purcell, ACDA
Mr. Bill Scanlon, TASC
Col Ned Schoeck, STRATCOM
Maj Mike Scifres, OSIA
Mr. Jim Scouras, ACDA
Mr. Kurt Siemon, DOE
Mr. Tom Troyano, OSD

Proceedings and Findings

Introduction

The fall of the Berlin Wall in 1989 and the collapse of the Soviet Union in 1991 ended the Cold War and changed the international security environment in fundamental ways. The subsiding threat of East-West conflict eased fears about global nuclear war, undermined the justification for major investment in strategic offensive forces, and gave rise to a new arms control agenda. Traditionally, the strategic offensive arms control agenda gave priority to the broader issues of nuclear stability, and numbers of deployed weapon systems and their characteristics. The agenda's objectives were lofty and generated deep, visceral passion among proponents and detractors. The post-Cold War agenda has given priority to uniquely technical issues, including nuclear weapon safety, security, and environmentally safe dismantlement. The negotiating environment for arms control has become more relaxed, open, and cooperative. However, strategic offensive arms control stimulates little passion today in its pursuit of narrow technical agreements however worthwhile those agreements may be.

Many assert that the post Cold War period is one of transition to an as-yet unknown international security environment. If so, then the future of strategic offensive arms control will continue to evolve as conditions change. With that evolution, we may see different institutional arrangements in the arms control community, new objectives and priorities, new standards for measuring arms control's contribution to national security, and new negotiations. The Strategic Offensive Arms Control Panel examined

these issues and more. Over two days, the panel discussed: the legacy of Cold War arms control and what it teaches us, strategic offensive arms control in the next century, a strategic offensive arms control agenda for the future, and what the United States must do today to position itself for arms control success tomorrow.

Historical Legacy

The Cold War resulted in an array of arms control agreements. The United States has signed forty major arms control pacts since 1925. Half of these have been signed in the last six years. Arms control has grown from a relatively unimportant tool of national security policy to one of the most successful policy processes of the United States Government. Arms control also has begun to affect the operation of U.S. military forces. The change in arms control's role cannot be separated from its association with strategic offensive arms and the Cold War. For most of the Cold War and to most audiences, arms control meant restraints on strategic offensive arms. The fundamental question that we must answer as we judge Cold War arms control's contribution is this: Are we safer today thanks to U.S. arms control achievements during the Cold War?

Students of international security are taught early the objectives of strategic offensive arms control identified by Morton Halperin and Thomas Schelling in the 1960s. Those objectives are to reduce defense expenditure, limit the destruction attending war, and reduce the risk of war. It is very doubtful that Cold War strategic offensive arms control has yielded a net monetary saving. After many efforts to account for such savings, it is clear that they are difficult, if not impossible, to identify with any confidence. They probably exist, but they do not appear to be very great. This should not be a surprise to us. Defense expenditure is complex and has its own processes and determinants. Moreover, it is clear that arms control comes with expenses of its own. They are not great either, but they exist. Arms control's savings and costs probably balance one another.

Strategic offensive arms control agreements resulted in significant reductions in nuclear weapons; however, these reductions would not have limited the damage inflicted in a global nuclear war. The arsenals of the superpowers are too large, and their weapons are too powerful, for arms reductions to have a damage-limiting effect meaningful to the target populations of the United States and Russia. Damage limitation through strategic offensive arms control has not occurred.

Strategic offensive arms control's successes arguably reduced the risk of war and, in so doing, significantly contributed to the welfare of Americans. Arms control agreements made nuclear relationships predictable, reinforced sober norms of conduct, created institutions committed to thinking about stabilizing the military balance, and permitted two generations of American and Russian leaders to discover parameters within which mutual trust could exist. The final days of the Soviet Union might have ended much differently, and tragically, had it not been for the experience Soviet political elites had with American leadership over decades of arms control negotiation.

On balance, the Cold War arms control process did not achieve all its objectives, but it did not need to achieve them all to make a major contribution to the safety of our society and the world.

The Future of Strategic Offensive Arms Control

U.S. strategic offensive arms control policy has set clear, near-term objectives. These will carry the United States into the first few years of the twenty-first century. Beyond 2005, however, the future of strategic offensive arms control is a mystery. With the collapse of the Cold War, U.S. political leaders have redefined the agenda for U.S. national security and turned their attention to a collection of national security issues that formerly received less priority, including economic competitiveness, international environmental pollution, and transnational migration. The attention directed to strategic offensive arms control has necessarily declined, particularly at the highest decision-making levels. The chief evidence of this decline is the absence of inspiring political objectives to be achieved through strategic offensive arms control and energetic advocacy of them.

Political leadership was the most significant factor in the Cold War success of U.S. arms control efforts. American presidents from Truman to Bush were personally committed to strategic arms control principles and pursued the associated objectives with great energy and persistence. Congress was blessed with a generation of leaders who understood the contribution arms control might make to U.S. and Western security and demanded persistence from the executive branch. Without strong political support in the executive branch and in Congress, the future of strategic offensive arms control will be bleak. It will lead to no important achievements, because no important objectives will be set. The absence of political leaders willing to speak passionately in arms control's behalf already chills prospects for future success.

The Strategic Offensive Arms Control Agenda

At present, the agenda for nuclear arms control consists of cleaning up the unfinished business of the Cold War: START I implementation, START II ratification/entry into force, nonproliferation, and adherence to the ABM Treaty. It is said that a plan exists to negotiate deeper reductions once Moscow ratifies START II. However worthy notional U.S. objectives in strategic offensive arms control might be, they are likely to fall well short of the ultimate objective the United States potentially could achieve in the next century if it wished: nuclear disarmament.

In 1946, at the beginning of the Cold War, the United States offered an arms control proposal calling for nuclear disarmament under verifiable conditions. The prohibition on nuclear weapons was to be enforced by a supranational institution authorized to impose "condign punishments" on proliferators and cheaters. Over the past 50 years, the United States apparently lost confidence in nuclear disarmament,

international institutions, and supranational authority. The Strategic Offensive Arms Control Panel, composed mostly of middle and senior-level analysts from the arms control interagency, could not conceive of conditions in which nuclear disarmament was plausible or desirable during the entire twenty-first century. The reason for their skepticism about nuclear disarmament was lack of confidence in:

- The long-term stability of U.S.-Russian relations;
- Known monitoring techniques and national technical means (NTM) to give adequate assurance of compliance, particularly as nuclear technology for power generation spreads;
- Accounting for all weapon-quality fissionable nuclear material produced to date (by one estimate only 60 per cent of the plutonium produced to date can be accounted for) leaving a legacy of uncertainty about the existence of nuclear weapons or hidden stockpiles of special nuclear materials;
- International institutions to provide the on-site inspection requirements necessitated by a nuclear disarmament regime;
- Securing participation from all of the key actors (nuclear weapon states, undeclared states, virtual nuclear states); and
- Non-nuclear means to secure U.S. vital interests.

The panel had every confidence, however, in the ability of the United States to negotiate an agreement that a majority of the nations of the world would be willing to sign. The panel was skeptical of effective compliance and monitoring; hence, they were unwilling to believe that a disarmament treaty could be effective. By implication, they supported the arms control principle that "no agreement is better than a bad agreement."

What should the United States do to position itself for success?

Greater attention to institutional development within the arms control community potentially will yield great returns for future strategic offensive arms control. The U.S. arms control interagency formed early in the Cold War. In many ways, it is still a Cold War community. In retrospect, the Cold War may have been the arms control community's golden era. Arms control institutions received substantial resources to do the job they were tasked to do. The best and brightest flocked to their doors. Today, all institutions in the federal government are straining to carry out their missions with fewer people and smaller budgets. Personnel cuts have been deep in the arms control community, and institutional reform may be required to recover.

Cabinet-level arms control organizations should consider ways to leverage the people in their institutions. They potentially might do this by redefining traditional missions, establishing new institutional visions, or reorganizing their Cold War-era institutions to confront contemporary challenges. The first step in this process should be to reorient senior management's perspective from the tactical level to the strategic. If

senior managers successfully prepare their institutions for the twenty-first century, they eventually will capture the attention and commitment of political leaders.

Conclusion

There is reason to believe that the best days of strategic offensive arms control are behind us. If so, strategic arms control will have had a distinguished history and made an incomparable contribution to U.S. security. However, it also will have failed to achieve the full promise of its future. Having overcome tremendous odds during the Cold War to become a tool of national security coequal in importance with defense programs, strategic offensive arms control risks marginalization in the future. The issues are there. The negotiating partners are there. With vision, persistence, and passion, effective agreements can be there, too.



Proceedings and Findings

**Working Group 2:
"Strategic Defensive Arms Control"**

Arms Control in the 21st Century

Working Group 2: Strategic Defensive Arms Control

Chairman: Dr. Kerry Kartchner, ACDA
Rapporteur: Mr. Stan Kowalski, SAIC
Participants: Dr. Steve Cambone, CSIS
Maj Frank Gallegos, AF/XOXI
Mr. Kevin Generous, ANSER
Mr. David Hoppler, ACDA
CDR Chris Kreitlein, ACDA
Lt Col Jeff Larsen, USAFA/INSS
Amb Ron Lehman, LLNL
Col Dutch Miller, HQ USAF/XOXJ
Mr. Joseph Pilat, Los Alamos National Laboratory
Maj Alan Van Tassel, USAFA/INSS

Introduction

Working Group 2 examined the future of strategic defensive arms control, looking at the role of deterrence and defenses for U.S. policy in future environments. The group agreed that advances in technology, changes in the international security environment, and domestic political trends are challenging our former notions of strategic stability and deterrence. Although necessary components of U.S. national security policy, the goals and objectives of strategic stability and deterrence must be reexamined in light of U.S. foreign and defense policy priorities.

Deterrence Policies

Although the generalities of traditional deterrence policies may apply in today's world, their details must be driven by specific circumstances. Successful U.S. deterrence policies during the Cold War may be applicable under similar circumstances today, but it is unlikely that such circumstances will repeat themselves. The fundamentals of deterrence policy, such as understanding the threats, the nation(s) imposing those threats, and the global/regional conditions underlying those threats are still important to ensuring appropriate U.S. reactions.

As the Soviet threat disappeared, more complex regional threats arose. The global dimension of the Soviet threat provided a clear role for U.S. strategic deterrence. Regional conflicts, on the other hand, challenge past notions of strategic deterrence. The United States will undoubtedly have different interests in regional conflicts than it did with the global Soviet threat. For example, the United States will likely have different interests in Chinese regional antagonisms than it did with the Soviets during the Cold War. Thus requiring the United States to develop regional and in some cases country specific strategic policies that incorporate scenario-specific threats and interests.

The potential complexity of a Chinese conflict would perhaps question whether global deterrence strategies were applicable in the post-Cold War environment. Although deterrence strategies were the best option for the United States against the Soviets, this approach may prove less effective in a China scenario. China represents one of many potential future threats and regardless of the source it is clear that for the United States to be effective its deterrence policies must be formulated to incorporate scenario-specific details.

The question of whether to formulate deterrence strategies to counter present and future scenarios may be dictated by the existence of nondeterrable states or leaders. In the past 400 years, there have been disabled or irrational leaders such as Stalin and Hitler who have not employed a "rational" cost/benefit analysis that comprises the basis for U.S. deterrence strategies. Additionally, terrorists may be considered nondeterrables, for it is unclear how to deter someone who is willing to sacrifice his or her own life. It was suggested that eliminating a terrorist would only prevent terrorist and not deter others. Equally troubling is the fact that nothing of significance, such as their families, can be taken away from terrorists to deter them. Perhaps terrorists are the only pure nondeterrables, as others may be deterrable given appropriate circumstances.

Defenses

Defenses play an important role in deterrence by denying the offensive capabilities of potential adversaries. It is the denial capability of defenses that may deter even the toughest cases, although denial of terrorist WMD use is questionable. Regardless, defenses play a critical role as deterrence incentives. However, the United States will be self-deterred if it does not have its own credible offensive threat options. Specifically, tactical weapons, with their smaller yield and greater precision, are extremely useful deterrent tools.

The ability to field credible threats to opponents plays a significant deterrent role. As an example, the Iraqi belief that the United States would use nuclear weapons during the Gulf War, if needed, probably played a significant role in bringing the war to a swift end. Credibility of the threat is most important to the opponent, although it must also be credible to the provider of the threat. The Iraqi example, however, was an aberration, for the United States never believed it would use nuclear weapons.

U.S. nuclear weapons policy is vague. It has been said that nuclear weapons use is the last resort for the United States; they would be used only if national survival were at stake. However, it is unclear whether the United States believes what it says and whether it really wants to delegitimize its use of nuclear weapons. Further, it is uncertain how the United States would react under the stresses of intense combat. Such ambiguity in nuclear policy is beneficial if the opponent is risk averse, but detrimental if the opponent is risk tolerant. The United States could find itself in a crisis because of the inconsistency and unreliability of its nuclear policy.

Power Projection

Careful examination of past deterrence efforts demonstrates that the U.S. deters aggression by the use or threatened use of its power projection capability. In light of this, the United States must keep its power projection capability intact and protect it from attack via missile defenses. Further, if defenses protect U.S. power projection capabilities which, in turn, facilitate deterrence, then it can be assumed that defenses are integral to U.S. national security. Additionally, if a hostile regional power has the capability to threaten the continental United States, the deterrent value of U.S. power projection capability will be diminished. Therefore, the United States must use the defenses necessary to protect its power projection capabilities.

Strategic Assets

One of the key concerns facing the United States is how to protect nonmilitary, strategic assets, such as oil fields. Historically, strategic assets have been defined as those that facilitate U.S. strategic and war winning power projection. However, the term "strategic asset" must be redefined in the post-Cold War world, where an oil field may be as significant a strategic asset as would a military base.

The issue of strategic defense of nonmilitary assets poses some interesting concerns. For example, what has the United States done to ensure that all its strategic assets are protected? What security measures have been undertaken? Without defense capabilities, these U.S. flagged assets could be placed at significant risk. The defense of strategic assets is a multilateral concern in that it involves not only the assets of the U.S. government, but the assets of other nations as well as private industry. The multilateral nature of the defense of strategic assets makes it an arms control issue. It is also an arms control issue because the United States does not want arms control efforts to interfere with protection of these assets. The United States should forge alliances with other nations and private industries to ensure their protection, as the ownership and propriety of these assets belongs to both the U.S. government and private industry. Although past arms control efforts have not incorporated concerns over the defense of nonmilitary strategic assets, the United States must ensure that these concerns are adequately addressed in future arms control agreements.

In the context of nonmilitary strategic assets, the role of arms control is to enhance international confidence by reassuring allies and adversaries that U.S. defensive systems are not aimed at opponents or modifiable into offensive systems. In addition, arms control should facilitate the development of missile defenses and other defensive systems that will enhance deterrence. It was suggested that the United States should endeavor to secure international agreements that allow deployment of defenses, rather than restricting them. It was also suggested that defensive arms control agreements do not have to revolve exclusively around missile defenses but should also address concerns such as germ warfare.

Russia

Considering the importance of defenses to national security, it is surprising that the United States and Russia have not engaged in more cooperative efforts related to defensive issues. Several possibilities for this lack of cooperation exist. First, the Russians may still view the United States as the enemy. Second, the weak Russian economy cannot support a build-up of defenses. The Russians likely would favor defenses if their economy were not only integrated into the Western economic system, but also if their government undertook a more democratic form. Such integration likely could provide the basis for cooperation in the long term where both nations could agree on defenses. Third, the Russians may not want the United States to derive a strategic advantage as a result of defensive forces. Thus, the challenge for the United States lies in getting the Russians to agree on defensive issues. Fourth, defenses have not historically been in both nations' interests. The Russians feel they do not need treaty relief as much as the United States does, in that they will probably not admit that they are at risk from their neighbors for fear of labeling their neighbors as adversaries. Regardless of the current state of affairs, the Russians may at some point need to cooperate on theater missile defenses (TMDs) as the majority of their potential threats are regional. Finally, it was suggested that the Russians may be buying time because they don't want to be left behind and want to ensure that domestic stabilizing factors as well as relationships with other nations (China, India, and Iraq, among others) are in place to improve their circumstances and their position in the world.

It was suggested that the U.S. deployment of strategic defenses beyond ABM Treaty levels would, in fact, provoke a strategic offense response from the Russians that would disrupt the strategic balance. However, it also was noted that for a variety of reasons, notably economics, the Russian response would not necessarily take the form of a massive build-up of offensive forces, even if the United States violated the ABM Treaty. Rather, the Russian response would be characterized by a slowdown or complete halt of the reduction in offensive weapons, or perhaps even a modest buildup.

To prevent an undesirable response and disruption of the strategic balance, the United States must carefully package the deployment of defenses to alleviate Russia's concerns. For example, if the Russians believe that U.S. intentions are to deploy defenses in order to weaken Russia, then the United States could expect substantial opposition. On the other hand, if U.S. intentions are perceived as attempting to limit the proliferation of WMDs, then Russia is unlikely to oppose the deployment. Another strategy could include sharing early warning data, as well as cooperating on TMDs, to ease Russia's concerns over the deployment of defenses. It should be noted that nations besides Russia may also express concern over U.S. deployment of defenses. In light of this, the United States must be aware of concerns other nations have about defensive systems and develop solutions to address those concerns.

Deployment of defenses may necessitate a compromise, since the price of acquiring defenses may exact require concessions on maintaining offensive capabilities.

Achieving a proper balance between offenses and defenses requires appropriate measures of effectiveness (MOE). Specifically, new measures of effectiveness should be developed to more fully and effectively integrate strategic defenses into the overall U.S. national security strategy as a means of underwriting evolving notions of stability and deterrence.

Historically, MOEs measuring damage to be inflicted, such as damage expectancy (DE), were symptomatic of an offensive-biased culture. Weapons systems were designed to maximize DEs. However, if the United States considers defenses integral to its national security, then it must develop new MOEs to capture and integrate defensive system capabilities. Examples of potential defense MOEs include damage averted (DA) and damage limited (DL). Shifting from an offensive-biased culture to a defensive-biased culture necessitates a fundamental change in strategic thinking, as would operationalizing concepts in mathematical terms.

The problem with MOEs is that they are dynamic measures and heavily scenario dependent. To date, proposed methods have been unacceptable because of a continued offense dominated analyses. The United States should consider developing different MOEs for specific future operating environments (FOEs) to account for specific circumstances. The United States must articulate a broader, clearer defensive vision to precisely define defense requirements, which in turn can be used to develop appropriate MOEs.

Conclusion

The United States must decide whether it will have an offense- or defense-dominant force. Should the United States pursue a defense-dominant strategy, it cannot allow a Russian reaction to be the sole guide for that strategy. Rather, the strategy should be proactive. The key to Russian cooperation on strategic defenses is a Russian recognition of the inevitability of a U.S. transition to a defensive posture.

Given the relationship between strategic offensive and strategic defensive weapons, strict parity in strategic offensive arms is not a prerequisite to further arms control efforts. Parity will be based on ranges, not fixed numerical quantities. As a result, the United States must develop appropriate MOEs to help determine the appropriate mix of offensive and defensive forces. These MOEs should address the relative worth of one offensive capability versus another defensive capability.

Invariably, procurement of defensive capabilities will necessitate sacrificing offensive capabilities to some degree, primarily because of budgetary limitations. The United States must consider internal political opposition to a reduction of its offensive capabilities. It is unclear whether the American public would accept Russian superiority in offensive systems as a trade-off for U.S. superiority in defensive systems. In order to attain international accession, the United States may have to eliminate its first-strike capability in order to field defensive systems.

Finally, the working group agreed that in light of the differing strategic views of the U.S. and Russia, the ABM Treaty is still relevant. However, it was agreed that the treaty is currently dangerous, since it does not account for the proliferation of WMDs. Although the United States and Russia may want to maintain the vulnerability that exists between themselves, they do not want to be vulnerable to the rest of the world. The ABM Treaty must be modified to include options for NMD systems that can protect the United States from unauthorized and accidental launches, rogue states, and any other foreseeable threat.



Proceedings and Findings

**Working Group 3:
"Conventional Arms Control"**

Arms Control in the 21st Century

Working Group 3: Conventional Arms Control

Chairman: Col. Schuyler Foerster, USSTRATCOM

Rapporteur: Mr. Sam Taylor, SAIC

Participants: Mr. James Burke, TASC

Maj. Gil Castillo, AF/XOXI

Mr. Taylor Kunkle, ANSER

Col. Tim Miller, OSIA

Ms. Sarah Walkling, ACA

Proceedings and Findings

In discussing the future of conventional arms control, it is important to first define what is considered to be the scope of such efforts. Clearly, efforts such as the Treaty on Conventional Forces in Europe, the Vienna Documents, the Forum for Security and Cooperation in Europe (CFE), Open Skies, the Dayton Accords, Transparency in Armaments, the Global Exchange of Military Information, and efforts in the Certain Conventional Weapons Convention are to be considered within this scope. However, for the purposes of the group's discussions, chemical and biological weapons were considered to fall outside of this discussion area, but the suggestion was made that such weapons need to be included in a future working group.

In the views of some of the participants, conventional arms control was seen as an attempt to define European security and political relationships. Through efforts such as the Confidence and Security Building Measures, the Vienna Documents, and CFE, it was felt that a greater sense of stability in the region would develop through the contacts developed during the implementation of the verification and confidence-building regimes. However, it is unclear that a similar effort could be made today given the post-Cold War environment, thus raising the question: "Was CFE a once in a lifetime experience?" Also, how much of the conventional arms control experience in Europe is a function of the Cold War?

In general, most believed that CFE could be a replicable agreement in other regions, but it was unclear whether or not such a comprehensive agreement was necessary. CFE, it was felt, worked because of the intense nature of the relationship between the United States and the Soviet Union. This relationship, coupled with the known force disparity between NATO and the Warsaw Pact, invigorated discussions between the sides to redress this national security issue. It is unclear that such a unique grouping of elements exists elsewhere in the world today. For example, no one could clearly identify another region (such as Africa, the Middle East, East Asia, etc.) that exhibited such a bipolar relationship, primarily because such things were unique to the United States and Soviet Union as the two dominant world powers of the Cold War era. Nor could anyone identify a region where the political environment would support such an effort. It was felt that there was a unique set of political changes which occurred at the time making CFE a success. Therefore, while a conventional arms control effort in

today's environment might reflect the preceding agreements, it probably would not replicate them, primarily because the conditions which led to the success of CFE do not exist anymore. Some participants felt that a greater chance of success in the conventional arms control arena lay with efforts like the Transparency in Armaments (TIA) and Global Exchange of Military Information (GEMI) agreements. These are less expansive arms control efforts, but for that reason might have a greater opportunity for use in other regions of the world.

The group developed a series of four questions it would attempt to answer through its discussions:

- What have we learned from conventional arms control?
- How useful is conventional arms control as a security instrument in the twenty-first century?
- How can conventional arms control contribute to security and stability?
- How should the United States in general, and the United States Air Force in particular, posture itself to prepare for possible future conventional arms control scenarios?

In an effort to address these questions, the future of conventional arms control was divided into three subject areas: the context of conventional arms control, its characteristics, and its process.

Context

The context of conventional arms control seeks to identify a set of existing conditions that are necessary for the pursuit of a conventional arms control agreement. For example, one such condition is the recognition that there is a security problem which can be corrected through arms control. This certainly was the case with CFE. The force disparity between the Eastern and Western forces, particularly in Central Europe, was the driving force behind the negotiations which led to the CFE Treaty. An important corollary to this condition is that the security problem cannot be resolved through an arms build-up to redress the force disparity, nor is conflict between the parties seen as an acceptable alternative.

Another condition to be recognized is an awareness that whatever the scope of the agreement, it will undoubtedly result in an imperfect agreement. For whatever reason, it seems that it is impossible to devise the "perfect" agreement, free from loopholes and ambiguities. However, through experience, these imperfect agreements can be made to function on a daily basis, and the longer they are used, the more complete they become. As long as the parties entering into negotiations recognize that the resulting agreement may be "flawed" to some extent, this is not necessarily a failure. Furthermore, the parties will have a greater chance of achieving a successful agreement that can survive the initial period of uncertainty if the details are developed and resolved through daily application.

It also is important that parties in a negotiation be willing to accept certain

conditions. First, they must be willing to accept concessions, as well as be willing to accept the loss of something they value, for example a class of weapons or a limitation on numbers or deployment. They must also be willing not to challenge the other party's vital interests, for to do so risks forcing the other party to refuse to negotiate. Finally, they must be willing to walk away from a negotiation and accept the political consequences of that action.

Two final conditions which are vital for the success of a conventional arms control agreement are that the process is seen to be legitimate, with its own inherent benefits, and that the process fits both legal and cultural frameworks. If the process of achieving an agreement is seen to be illegitimate, it cannot possibly succeed. Just as importantly, the process must be seen to benefit the parties. If the process is seen as merely an exercise in discussion, without any real benefit in the long run, then the parties will not be willing to press for successful implementation of the agreement. The process also must not force either party to violate their legal or cultural base, for to do so would create too great a strain on the people who must subscribe to the agreement. This does not mean, however, that an agreement cannot stretch the frameworks of the parties in order to achieve a workable and viable agreement.

Characteristics

Having described the necessary context for a successful conventional arms control agreement, the group next addressed the characteristics of successful conventional arms control agreements. One of the most obvious of these characteristics is that the agreement seeks to destroy or neutralize excess equipment. The goal of CFE was to eliminate the excess weapons in Central Europe, particularly those of the Warsaw Pact since they had the greatest numbers. However, it was agreed that another characteristic of a successful agreement is that it must recognize that there are legitimate reasons for conventional forces; therefore, total elimination of forces is not necessarily a desired goal. This is a unique difference for conventional arms control as opposed to strategic arms agreements. Total elimination of strategic nuclear weapons historically has been a goal which was given some credence, and a greater promise for success, due to increasingly improving relations between the nuclear superpowers. However, conventional forces play a legitimate and recognized defensive national security role. Therefore, total elimination of such forces would be counterproductive and would not improve national and international security. It is therefore important that negotiators pay attention to what is beyond the scope of force limitations.

Another lesson learned from previous conventional arms control agreements is that on-site verification is a crucial element for a successful agreement. Moreover, on-site inspection (OSI) is crucial not only in a technical sense for the information it gathers toward verifying a state's compliance with the agreement. It also is crucial for political reasons. On one level, this political component is characterized by holding a state accountable for its compliance; but on another level, it is characterized by the political relationships that develop from the continuing contact of inspection personnel. This continued contact can result over time in improved relations and a greater sense of

familiarity with another state. It is important that we take the verification process very seriously. We also must maintain our credibility by not abusing the process. Historically, the United States has chosen to follow a very strict interpretation of the verification rights inherent in those agreements which provide for OSI. Other parties to the agreements have not followed such a stringent path and sometimes have resented the "letter of the law" approach of the United States. However, the U.S. On-Site Inspection Agency has worked very hard to ensure that U.S. credibility is beyond question. This must continue to be the case in future arms control agreements, conventional or otherwise.

There are two final characteristics of conventional arms control agreements that should be noted. First, an extensive information exchange over a period of time is a necessary component, as it provides a building block of information which can be used during the verification process. The second characteristic which must be recognized is that agreements which do not call for a reduction in weapons or forces, but instead concentrate on confidence-building measures, should not be considered a "failure" as arms control agreements. Confidence-building must be seen as an end in itself, since it can lead to greater information, better relations, and improved communications.

Process

The third area that the group considered as they reviewed the lessons learned from previous conventional arms agreements was the process involved in reaching these agreements. One point made was that the personalities of those involved in the negotiations, and indeed throughout the life of the treaty, matter very much in determining the success of an agreement. Related to this is that continuity of people and expertise is important, particularly during the negotiating phase. If key representatives are replaced during a negotiation, their replacements may not have the skills or knowledge of their predecessors. However, flexibility is also an important part of the process, perhaps infusing new ideas which can rescue a seemingly stalled negotiation. Another recognition is that the expectations of those involved matter a great deal. Preconceived expectations or goals can drastically affect the nature of the negotiations, even to the point of failure should these goals be seen as not having been met. In a more positive light, these goals and expectations also can be critical in keeping negotiations on track. By having a clearly defined objective, temptations to "stray from the path" and pursue other avenues can be more easily resisted.

Another point recognized by the group was that there is an inherent tension between operational and arms control considerations. This stands to reason, but it must not be overlooked because of its simplicity. Few military leaders have been eager to have their force levels reduced, even though in many cases they recognize that there are legitimate benefits to doing so. This relates in many ways to the characteristic mentioned previously, that there are legitimate uses for conventional forces. Therefore, this tension must be recognized and acknowledged. One way in which this can be addressed, and which was presented as one of the aspects of the process by which successful agreements are achieved, is that the military must present technical, operational, political, and

military expertise in order to be a credible interagency player. Since negotiations seldom are led by military personnel, and in some cases may not include them even as technical or subject-matter experts, the area where the military can make the greatest contribution to the outcome of a negotiation is through the interagency and backstopping the negotiating team.

Future Purposes of Conventional Arms Control

Having addressed the lessons learned from our experience with conventional arms control agreements, the group looked to likely uses of conventional arms control in the future. The most likely purpose for future agreements was seen to be in the area of conflict management. It was generally agreed that large, bloc-to-bloc agreements such as CFE were unlikely to be repeated, primarily because of the absence of any other multinational security relationships which compare to NATO and the Warsaw Pact. Instead, it was felt that future conventional arms agreements would be regional or subregional, and each would be different. Moreover, it was felt that future agreements would not find U.S. forces as a likely subject. Outside of Europe (and possibly Japan), the United States does not have a large standing presence which would invite negotiations to reduce force levels.

Therefore, it was expected that future agreements would follow a step-by-step method, and would include information exchanges, confidence-building measures, and verification regimes. It was felt that the goals of agreements should include predictability as part of the conflict management strategy, and the process by which this predictability is achieved is important. Arms control still relies on a willingness by the actors to participate, but it may in some instances it may involve some imposition at first. Examples given were the UNSCOM effort in Iraq and the "consensus-minus-one" model seen in the Conference (now Organization) on Security and Cooperation in Europe.

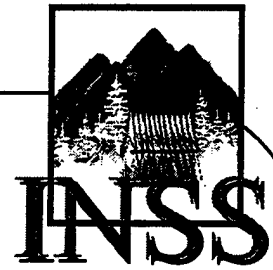
One area that might be investigated in future agreements limitations on the capabilities of weapons. In general, it was felt that such limitations would be viewed by most as illegitimate and certainly difficult to monitor and enforce. All agreed that it was not likely to be initiated by the United States, but that other states might pursue such efforts on a regional basis. It was felt that the less technologically sophisticated the weapons, the harder it would be to place limits upon them.

Implications for the U.S. Military/USAF

In general, the likelihood that limitations would be placed on U.S. military forces was considered very remote. One area that might see such limitations, however, was forward-deployed forces in a theater, but such limitations were expected to occur due to fiscal reasons as well as for strategic ones. It was felt that the United States might find itself in the position of using arms control agreements to secure reductions of or limitations on forces by other parties in areas where the United States was removing forces due to budgetary constraints, rather than through an overarching security need. The role most saw the United States playing in conventional arms control agreements was

as a facilitator in negotiating and implementing regional agreements, using our expertise with arms control to broker agreements where U.S. forces might not even be included. A specific role mentioned for the USAF was in its use of reconnaissance aircraft to monitor treaty compliance. Expectations were that the United States would continue to avoid any limitations placed on the U.S. ability to exploit its technological capabilities and to project power in defense of vital interests. Finally, the hope was expressed that the United States would continue to address arms control in areas of actual need and not spend time and effort "chasing rainbows."

Two issues which arose from the discussions should be noted. The first was a concern that the United States address how, or whether, it wants to deal with nonlethal technologies that could have a devastating affect on our society, government, or military structure. The best example of this was information warfare. There was general agreement that this would be, perhaps, the next greatest effort for some form of arms control agreement. The other issue that was raised was how to differentiate between legitimate and illegitimate arms. As has already been mentioned, conventional arms are unique in that they can be said to have legitimate uses that make any attempt to eliminate them impractical at the very least. However, if one accepts this, it leads to the questions of "how much is enough?" and "what is accepted as a legitimate weapon?"



Proceedings and Findings

**Working Group 4:
"Regional Arms Control"**

Arms Control in the 21st Century

Working Group 4: Regional Arms Control

Chairman: Mr. Leonard Spector, Carnegie Endowment for International Peace

Rapporteur: Mr. Michael Wilkinson, SAIC

Participants: Mr. Bob Batchner, ACDA

Dr. Will Curtis, U.S. Naval Academy

Mr Bill Doty, OSIA

Mr. Lucas Fischer, ACDA

Mr. David Giddens, CIA

CDR Martha Gillette, Office of the Chief of Naval Operations

Mr Tim Harworth, ANSER

Maj Robert Hughes, AF/XOXX

Capt Vince Jodoin, INSS

Lt Col Derrald Lary, AF/XOXI

Dr. Peter Lavoy, Naval Postgraduate School

Maj Chris Maple, AF/XOXI

Mr. James Mosora, TASC

Dr. Barry Schneider, Air War College

Mr. FX Stenger, OSIA

Dr. James Wirtz, Naval Postgraduate School

Introduction

As the Cold War fades into history along with the traditional superpower arms rivalry, new challenges are emerging in the arms control arena. Arms control has experienced a devolution from bipolar strategic stability to multipolar instability and is characterized primarily by the proliferation of weapons technology to new and unpredictable countries and regions.

Working Group 4 was responsible for examining the future of this emerging and increasingly important sub-set of arms control issues. The discussions focused on identifying regions that are vital for U.S. national security, identifying factors which contribute to instability and make arms control necessary in a given region; and identifying tools that are available to the United States in its efforts to protect its interests in a given region.

The group ended up focusing only on three specific regions: the Korean peninsula, South Asia, and the Middle East. These regions were seen as the most useful in terms of identifying U.S. security interests and tools used for projecting influence in a regional context. The discussion also focused on proliferation of weapons of mass destruction, rather than conventional weapons, because of the dissimilarity of the two types of arms control and the presence of another working group that covered conventional arms control.

In summary, the working group concluded that regional arms control is increasing in importance as traditional power structures fade, regional arms control is intertwined with global arms control, and the United States has a crucial role to play in regional arms control throughout the world.

Purposes of Regional Arms Control

Arms control is intended reduce the likelihood of, destructive capability of, and costs associated with war. These purposes apply to regional arms control as well as strategic arms control; however, regional arms control initiatives often have unique purposes not shared by other arms control initiatives. The group cited North Korea as an example. In this region, there is a fundamental need to increase the dialogue between North and South Korea, as well as stem nuclear weapons proliferation, and stabilize the North Korean regime. All of these activities serve to maintain stability in Asia, which is undoubtedly a key region for U.S. national and economic security.

In South Asia, where both India and Pakistan possess nuclear weapons capability, regional tensions arise from domino-like power struggles between China and India, and India and Pakistan. The smaller of each pair cites the threat posed by the larger as the reason for maintaining a nuclear capability. In general, arms control in this region should strive to reduce such tensions, increase dialogue, and stem missile proliferation. One special goal of arms control in the South Asia context is the need to stimulate peaceful resolution of a lasting point of contention between India and Pakistan--the Kashmir crisis. Arms control will serve to reduce the likelihood, destruction, and cost of war, should it break out over Kashmir, but it will also stimulate a security dialogue between the two states.

In the Middle East, arms control will help protect vital U.S. political and economic interests. Numerous countries in the region possess WMD programs, and the threat from such programs exacerbates existing political tensions in the region. By contributing to the overall peace process, arms control in the Middle East will make a significant contribution to global stability. Unique to the Middle East is the existence of subregional arms control problems and initiatives. Within the Middle East writ large, a multitude of arms control subregions exist, including the chemical weapons threat from Libya, the discovery of a mature nuclear weapons program in Iraq, and suspicions of clandestine nuclear weapons activities by Iran. The Middle East demonstrates better than any other region the integral relationship between regional arms control, global arms control, and international security.

In each region, the individual weapons programs and regional circumstances dictate the interests, tools used, and outcomes of regional arms control initiatives. As shown by the Kashmir example, regional arms control often also serves as a means for getting to the root of a particular regional problem.

Tools for Advancing U.S. Interests

As with the purposes and interests at stake, the tools for advancing U.S. arms control interests on the regional level are in some instances universally applicable and in others unique to a particular region. Tools which apply to any arms control effort, whether global or regional, include international arms control regimes, international legal and political norms, and tighter controls over and greater transparency in the transfer of dual-use technologies between countries.

International arms control regimes include the Nuclear Non-Proliferation Treaty (NPT), which prevents non-nuclear weapon states from acquiring or manufacturing nuclear weapons by safeguarding nuclear facilities in over 175 countries. The NPT was essential to the task of identifying and paving the way for the elimination of North Korea's alleged clandestine nuclear weapons program. The Comprehensive Test Ban Treaty (CTBT) will prohibit the development and refinement of nuclear weapons and will also prevent threshold nuclear states from advancing beyond the most basic stages in nuclear weapons development. Furthermore, such negotiations help engage states such as India and Pakistan in a dialogue about their nuclear capabilities.

Legal and political norms put pressure on any aspiring nuclear power not to pursue the nuclear option. If an international norm exists against a particular activity, a small state that is dependent upon the international economy for its well-being may pause before transgressing that norm. Successful cases of states abiding by the anti-nuclear norm include South Africa, Argentina, and Brazil. Conversely, norms, when they are transgressed, justify international punitive actions. The NPT, as a legal norm (not just a verification tool), forms the legal and political basis for the extraordinary measures taken to roll back the nuclear weapons program discovered in Iraq following the Persian Gulf War.

Supplier controls and transparency in dual-use technology transfers make the acquisition of nuclear weapons technology more difficult. Running a clandestine nuclear weapons program can be impossible if acquiring the essential items automatically draws the spotlight to your program. In one recent example, such controls have drawn attention not only to the buyer (Iran), but also to the sellers (companies in Germany, an otherwise reputable country). The future Fissile Material Control Treaty will complicate or foil the transfer of the most crucial aspect of a nuclear program.

Region-specific tools include economic and political incentives and punishments, which are among the most effective and widely used tools. UN Security Council resolutions such as those imposed upon Iraq have crippling economic and political effects. The Pressler Amendment prevented Pakistan from taking delivery of military aircraft if it failed to certify that it was not pursuing a nuclear weapons capability, thereby preventing it from improving its conventional security situation. South Africa, Argentina, and Brazil, on the other hand, are rewarded economically and politically for not taking the nuclear route. In a case which could go either way, North Korea can

expect significant economic and political incentives in the form of diplomatic recognition, energy assistance, humanitarian aid and other economic and political integration programs, if it cooperates in dismantling its suspected nuclear weapons program. If it continues with its program, it can expect international condemnation, economic isolation and possible military reprisal. The United States spearheads most, if not all, such political and economic "carrot and stick" initiatives.

Other regional tools include the conclusion of bilateral and regional treaties or agreements, such as in the cases of North and South Korea and the Middle East; selective engagement, e.g. the U.S.-DPRK agreed framework; and in the most exceptional cases, selective military counterproliferation initiatives, such as in Libya and Iraq.

Conclusion

The working group concluded that continued U.S. support for regional arms control is essential, but with less well-defined threats and declining resources, sustaining the current level of involvement in arms control at the regional level, particularly where costs are high and clear national interests are difficult to define, may be difficult.



Keynote Address

Arms Control in the 21st Century

Keynote Address, "The Future of Arms Control"

Ambassador Ronald Lehman, Lawrence Livermore National Laboratory

Col (S) Todd Bodenhamer, Chief of the National Security Negotiations Division, AF/XOXI, introduced Ambassador Ronald Lehman of the Lawrence Livermore National Laboratory. Ambassador Lehman began the keynote address by stating how appropriate it was to dedicate the conference to the memory of Major General Robert Linhard, one of the finest minds in the arms control community. The following is a synopsis of the keynote address.

Since the bombing of Hiroshima on 6 August 1945, no major war has erupted in Central Europe. The nuclear age played a significant role in keeping the peace by threatening our very existence with nuclear energy's great destructive power. However, with the demise of the Soviet Union, the bipolar environment in which threats were clearly defined has been replaced by an uncertain, multipolar environment in which the threats are opaque. Understanding the security environment that the United States will face in the twenty-first century is perhaps our greatest challenge. Ambassador Lehman suggested the United States has been defining the present in terms of the past, simply because it is familiar with the past and is not certain what role it will play in the future. The United States needs a vision to guide it into the next century.

Developing such a vision is a challenging task since the United States seeks to create a safer world under conditions fraught with great uncertainty. The only certainty, according to Ambassador Lehman, is that the world will undoubtedly be turned upside down throughout the next century. Technological advances in genetics, weapons systems, communications, and other areas will significantly shape the future environment. Other variables, including terrorism and great power conflicts, will also color the future in significant and unknown ways. The next century, he warned, may not be a continuation of the "American century," and as such the United States needs to prepare for a possible shift from its "place in the sun."

As the world has become increasingly interdependent, much of American culture and technology has been diffused around the globe. Ambassador Lehman stated, the United States has found and will continue to find itself in an increasingly competitive world characterized by expanding information and technology transfers. He also suggested that open communication among nations is leading to "associationism," nations banding together to solve their problems, thereby further complicating the international system.

Although many aspects of American society have influenced and continue to influence other nations, it is not clear that the world's people are organizing around American principles, as evidenced by the increase in violence and nonstate-sponsored terrorism. Even as some regions are becoming unified, others are breaking apart. Brussels, for example, is not only the capital of a unified Europe; it is also the capital of a disintegrating Belgium. The forces of disintegration are not only present throughout the

world but are also growing at alarming rates. Technology and information transfers, intrastate ethnic divisions, and other forces collectively paint an uncertain future that the United States must learn to recognize and confront. The world is transforming its bipolar focus from East-West to North-South, to the "haves" and the "have nots," specifically in regarding the possession of weapons of mass destruction (WMD). Ambassador Lehman concluded that arms control may become more important in the future than it ever has been to cope with such an uncertain, dynamic future.

The United States believed in arms control during the Cold War because it subscribed to the philosophy that "the great general weakens the enemy." However, in today's post-Cold War world, nations do not want strict approaches to treaty implementation and verification. Instead, they seek transparency instead of verification. According to Ambassador Lehman, these exchanges will undoubtedly challenge the arms control strategies of the past and generate intense debate.

The United States should be concerned with international participation in arms control treaties, specifically those regarding WMD. As an example, 38 countries have not signed the Biological Weapons Convention, 34 have not signed the Chemical Weapons Convention, and 10 have yet to sign the Non-Proliferation Treaty. These nations should be considered problems to be addressed by the arms control community. Regardless of the specific treaty involved, he stated, the goal of the United States must be to universalize the principles of these agreements to make them acceptable to all nations and convince nonsignatories to become signatories.

Convincing nations to become signatories is only mildly effective if the definition of the threat environment is extended to include not only nations possessing WMD but also those possessing the scientific and industrial base to produce WMD. These nations include, for example, the nuclear weapons states, former nuclear weapons states, threshold states, proliferating states, U.S. allies with nuclear technology and materials, and advancing technologies states. An expanded threat environment poses significant additional challenges that the United States must be prepared to confront.

Addressing these threats appropriately and convincingly is critical, because several countries rely on the American nuclear umbrella. Ambassador Lehman suggested that extending the NPT becomes less important if one assumes that most countries have no nuclear aspirations. However, he continued, approximately half of the world's population lives in a past or present nuclear weapon state or a proliferating state. Only a small percentage of the world population is not considering its nuclear option. Therefore, it is important for the United States to focus on the few "hard cases" in order to ensure regional and global peace.

If the United States is to address the few hard cases, it must focus not on the steps towards arms control agreements but on the underlying conditions leading to those steps. Satisfactory conditions must be created not only to suit U.S. interests but also those of other nations. Maintaining the credibility of the American nuclear umbrella is critical to

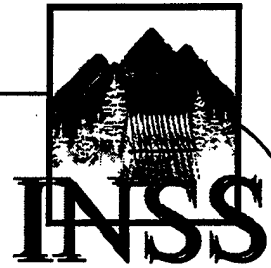
ensuring that conditions conducive to reducing the price of entry into nuclear agreements are achieved. Only under these conditions can we successfully deal with those few difficult nations and maintain global and regional peace.

Ambassador Lehman concluded his address by noting that Major General Linhard was quite aware of the great uncertainty facing the United States in the future. He also suggested that no one person is indispensable and that the entire arms control community must come together and tackle the challenges awaiting the United States. The real challenge, however, is to ensure that the community tackles these challenges before it's too late.



Administrative Materials

Arms Control in the 21st Century



Administrative Materials

Agenda

Arms Control in the 21st Century



**The USAF National Security Negotiations Division
&
Institute for National Security Studies**

ARMS CONTROL IN THE 21ST CENTURY

**Washington, DC
6-7 August 1996**

Agenda

Tuesday, 6 August 1996

0830	Arrival & Check-in at ANSER (8th Floor Conference Facility)
0900	Opening Remarks: Colonel (S) Todd Bodenhamer (AF/XOXI) Lt Col Pete Hays (INSS) Administrative Remarks Room 8S15
0930	Opening Presentation, Mr Bob Bell, NSC Room 8S15
1015	Break
1030	Plenary Panel - Lessons Learned from Arms Control Room 8S15 Moderator: Dr James Wirtz Strategic Offense/Defense: Dr Kerry Kartchner, ACDA Conventional: Ms. Mary Margaret Evans, Conventional Arms Control and Compliance Regional: Dr Peter Layoy, Naval Postgraduate School
1200	Lunch
1300	Conferees Divide into Four Concurrent Working Groups Working Group I -- "Strategic Offensive Arms Control" Moderator: Mr Forrest Waller, SAIC Rapporteur: Mr Greg Blaisdell, SAIC Room 8S12 Working Group II -- "Strategic Defensive Arms Control" Moderator: Dr Kerry Kartchner, ACDA Rapporteur: Mr Stan Kowalski, SAIC Room 8S14

Working Group III – “Conventional Arms Control”
Moderator: Col Schuyler Foerster, USSTRATCOM
Rapporteur: Mr Sam Taylor, SAIC
Room 8S10

Working Group IV – “Regional Arms Control”
Moderator: Mr Leonard Spector, Carnegie Endowment for Peace
Rapporteur: Mr Mike Wilkinson, SAIC
Room 6N10

1600 **Working Groups Adjourn**

1800 **Reception and Dinner at Crystal City Marriott**

2000 **Keynote Address**
Speaker: Amb Ron Lehman

Wednesday, 7 August 1996

0830 **Arrival & Check-in at ANSER (8th Floor Conference Facility)**

0930 **Plenary Panel - The Future of Arms Control**
Room 8S15
Moderator: Mr David Kay, SAIC

Participants:
Mr John Isaacs, Council for a Livable World
Amb Jonathan Dean, Union of Concerned Scientists
Mr Brad Roberts, Institute for Defense Analysis
Mr Joe Pilat, Los Alamos National Laboratory

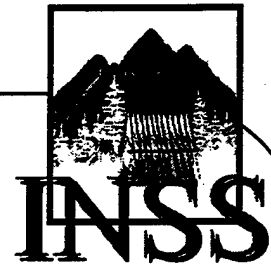
1130 **Lunch**

1230 **Working Groups Reconvene (Session II)**
Room 8S15

1500 **Working Group Presentation of Findings**
(15 Minutes per Group)

1600 **Concluding Remarks** **Colonel (S) Todd Bodenhamer (AF/XOXI)**
Lt Col Pete Hays (INSS)

1615 **Conference Concludes**



Administrative Materials

Conference Attendees

Arms Control in the 21st Century



The USAF National Security Negotiations Division
&

Institute for National Security Studies

ARMS CONTROL IN THE 21ST CENTURY

Washington, DC
6-7 August 1996

Attendees

Opening Remarks: Colonel (S) Todd Bodenhamer (AF/XOXI)
Lt Col Pete Hays (USAFA/INSS)

Opening Presentation: Mr. Bob Bell (NSC)

Plenary Panel 1, *Lessons Learned From Arms Control*

Moderator: Dr. James Wirtz (Naval Postgraduate School)

Participants: Dr. Kerry Kartchner (ACDA)
Ms. Mary Margaret Evans (Arms Control Implementation & Compliance)
Dr. Peter Lavoy (Naval Postgraduate School)

Working Group I, *Strategic Offensive Arms Control (Room 8S12)*

Moderator: Mr. Forrest Waller (SAIC)
Rapporteur: Mr. Greg Blaisdell (SAIC)

Participants: Maj Tom Billick (AF/XOXI)
Mr. Richard A. Bowen (Department of Energy)
Lt Col Brandy Buttrick (ACDA)
Lt Col Terry Godby (ACDA)
Mr. Stanley Kober (CATO Institute)
Mr. Arthur Kuehne (ACDA)
Lt Col Jim Mammen (OSIA)
Lt Col Dick Newton (Strategic Plans & Policy/J-5)
Lt Col Frank Peluso (OSIA)
Dr. George Pitman (ACDA)
Ms. Jane Purcell (ACDA)

Mr. Bill Scanlon (TASC)
Col Ned Schoeck (USSTRATCOM/J-5)
Maj Mike Scifres (OSIA)
Mr. Jim Scouras (ACDA)
Mr. Tom Troyano (OUSD/ACI&C)

Working Group II, Strategic Defensive Arms Control (Room 8S14)

Moderator: Dr. Kerry Kartchner (ACDA)
Rapporteur: Mr. Stan Kowalski (SAIC)

Participants: Dr. Steve Cambone (CSIS)
Mr. Peter Engstrom (SAIC)
Maj Frank Gallegos (AF/XOXI)
Mr. Kevin Generous (ANSER)
Mr. David Hoppler (ACDA)
CDR Chris Kreitlein (ACDA)
Lt Col Jeff Larsen (USAFA/INSS)
Amb Ron Lehman (LLNL)
Col Dutch Miller (HQ USAF/XOXJ)
Maj Henry Mitinual (AF/XOXI)
Mr. Joseph Pilat (Los Alamos National Laboratory)
Maj Alan Van Tassel (USAFA/INSS)

Working Group III, Conventional Arms Control (Room 8S10)

Moderator: Col Schuyler Foerster (USSTRATCOM)
Rapporteur: Mr. Sam Taylor (SAIC)

Participants: Dr. Michael Altfeld (Office of the Chief of Naval Operations)
Mr Jim Burke (TASC)
Maj Gil Castillo (AF/XOXI)
Mr Taylor Kunkle (ANSER)
Lt Col Timothy Miller (OSIA)
Ms. Sarah Walkling (The Arms Control Association)

Working Group IV, Regional Arms Control (Room 6N10)

Moderator: Mr. Leonard Spector (Carnegie Endowment)
Rapporteur: Mr. Mike Wilkinson (SAIC)

Participants: Mr. Bob Batcher (ACDA)
Dr. Will Curtis (US Naval Academy)
Mr Bill Doty (OSIA)
Mr. Lucas Fischer (ACDA)
Mr. David Giddens (CIA)

CDR Martha Gillette (Office of the Chief of Naval Operations)
Mr Tim Harworth (ANSER)
Maj Robert Hughes (AF/XOXX)
Lt Col Derrald Lary (AF/XOXI)
Dr. Peter Lavoy (Naval Postgraduate School)
Maj Chris Maple (AF/XOXI)
Mr. James Mosora (TASC)
Dr. Barry Schneider (Air War College)
Mr. FX Stenger (OSIA)
Capt Vince Jodoin (INSS)
Dr. James Wirtz (Naval Postgraduate School)

Plenary Panel 2, *The Future of Arms Control*

Moderator: Dr. David Kay (SAIC)

Participants: Mr. John Isaacs (Council for a Livable World)
Amb. Jonathon Dean (Union of Concerned Scientists)
Mr. Brad Roberts (Institute for Defense Analyses)
Mr. Joseph Pilat (Los Alamos National Laboratory)

Concluding Remarks: Colonel (S) Todd Bodenhamer (AF/XOXI)
Lt Col Pete Hays (USAFA/INSS)



Administrative Materials

Conference Biographies

Arms Control in the 21st Century

"Arms Control in the 21st Century" Conference Biographies

ROBERT G. BELL

Robert Bell is Special Assistant to the President for National Security Affairs and Senior Director for Defense Policy and Arms Control at the National Security Council. In this position he is responsible for advising the President and the National Security Advisor on a wide range of defense and arms control issues, including national security strategy, defense budgets and programs, defense conversion, weapons acquisition, and strategic nuclear and conventional arms control.

Mr. Bell was born in Birmingham, Alabama, on August 26, 1947. The son of a highly decorated Air Force officer, he graduated from Annandale High School in Annandale, Virginia, in 1965. He earned a Bachelor of Science degree, with honors, from the U.S. Air Force Academy in 1969 and a Master of Arts degree in International Security Studies from the Fletcher School of Law and Diplomacy at Tufts University in 1970.

As an Air Force officer, Mr. Bell served as a Squadron Commander in the air traffic control and communications field and completed assignments at bases in Delaware, Florida, and Greenland. He was honorably discharged as a Captain in 1975.

From December 1984-January 1993, Mr. Bell was the principal staff assistant for arms control issues to Chairman Sam Nunn, Committee on Armed Services, United States Senate. Mr. Bell also assisted Senator Nunn with legislation related to strategic force modernization, strategic defenses, NATO, and chemical weapons.

From 1981-1984, Mr. Bell was the principal staff aide for defense policy and arms control issues to Chairman Charles H. Percy, Committee on Foreign Relations, United States Senate. He also served as Senator Percy's Military Legislative Aide, with responsibility for all defense authorization, appropriations and MILCON legislation, defense contracts, and other defense projects of importance to the State of Illinois.

From 1975-1978 and 1980, Mr. Bell served as a Defense Analyst, Congressional Research Service, Library of Congress. He authored studies for Members of Congress and committees on strategic weapons and doctrine, NATO, arms control, and arms sales policy. As Assistant Division Chief for Research, he directed studies by 50 staff members on foreign and defense policy issues.

In 1979, Mr. Bell served as Staff Director, Military Committee, at the North Atlantic Assembly in Brussels, Belgium.

Mr. Bell is married to the former Rosemary Jackson of Pittsburgh, Pennsylvania. They have two sons, Nathan and Stefan.

JONATHON DEAN

During a long stint in the Foreign Service, former Ambassador Jonathan Dean worked mainly on issues of East-West relations, European security, and international peacekeeping. In the middle fifties, he helped to establish the new Federal German armed forces. In the early 1960s, he was Principal Officer in Elisabethville, Katanga during the Tshombe secession and the UN peacekeeping intervention, and then Deputy Director of the Office of United Nations Political Affairs, Department of State, where he worked on peacekeeping and economic sanctions. He was deputy US negotiator for the 1971 quadripartite agreement on Berlin, which ended three decades of dangerous East-West wrangling over the city. From 1973 to 1981, he was deputy U.S. Representative and then U.S. Representative to the NATO-Warsaw Pact

force reduction negotiations in Vienna (MBFR talks), for a total of eleven consecutive years of political and arms control negotiation with Soviet and Warsaw Pact officials.

After leaving the Foreign Service, Ambassador Dean joined the Carnegie Endowment for International Peace as resident for arms control and international security issues to the Union of Concerned Scientists, one of the largest public interest organizations working on questions of environmental and international security. He is the author of *Watershed in Europe* (1987) about cutting back the NATO-Warsaw Pact military confrontation in Europe, of *Meeting Gorbachev's Challenge* (1990) on negotiating the Conventional Forces in Europe (CFE) Treaty and CSCE conflict-prevention measures, and *Ending Europe's Wars* (Twentieth Century Fund Press, 1994) on post-cold war security problems and the institutions established to deal with them. He has published many newspaper and journal articles on issues of national security, European security, nuclear disarmament, and multilateral peacekeeping.

MARY MARGARET EVANS

Ms. Evans is the Assistant Deputy Director of the Arms Control, Implementation, and Compliance (ACI&C) Office in the Office of the Secretary of Defense. As such, Ms. Evans carries out the responsibilities assigned to the Under Secretary of Defense (Acquisition & Technology) by the SecDef for oversight of all Department of Defense planning and execution related to implementation of, and compliance with, all conventional arms control treaties and agreements. Ms. Evans assigns OSD, Service, and Defense Agency responsibilities for treaty compliance and implementation. She also leads in budget formulation for the execution of treaty provisions, establishes requirements for compliance and verification technologies R&D, and oversees DoD compliance execution. In addition, Ms. Evans provides technical support to all ongoing conventional arms control negotiations to make certain that treaties do not contain overly-restrictive compliance regimes and to ensure that nothing in the acquisition pipeline is inadvertently forfeited in negotiation.

From June to September 1993, Ms. Evans was detailed to work on Vice President Gore's National Performance Review (NPR), the goal of which was to create a government that works better and costs less. At the NPR, Ms. Evans was part of the Intelligence Community team that analyzed the structure and operation of the Intelligence Community and produced recommendations, approved by the Vice President, to improve collection and dissemination of intelligence, information management, relations with customers, and personnel management.

Prior to working in ACI&C, Ms. Evans was the point of contact within SDIO for technical and policy matters in support of the Defense and Space Talks in Geneva, Switzerland. She reported to the Director, SDIO, apprising him of arms control developments which could affect national security, strategic defense policy, strategic defense research and weapons matters, and related issue areas. Ms. Evans was the SDIO representative to the Interagency Defense and Space Working Group (May 1987 to July 1989), and the Technical Advisor to the U.S. Defense and Space Delegation in Geneva during Rounds X and XI (September 1988 through July 1989).

Prior to becoming a Government employee, Ms. Evans was a Senior Analyst at the General Research Corporation, McLean, Virginia (December 1982 to June 1986). While there, she performed analyses designed to assist the SDIO—and before the creation of the SDIO, the Assistant for Directed Energy Weapons and the Defense Advanced Research Projects Agency (DARPA)—in the preparation, maintenance, and description of their programs.

Ms. Evans holds an M.A. from George Washington University, Washington, D.C. in Security Policy Studies (1982), and a B.A. from the University of Virginia, Charlottesville, Virginia, in History and German (1978). Ms. Evans studied at the University of Vienna, Austria, as part of a study-abroad program, in 1975.

SCHUYLER FOERSTER
COLONEL, USAF

Colonel Schuyler Foerster, United States Air Force, is Senior Assistant to the Commander in Chief, United States Strategic Command at Offutt Air Force Base, Nebraska. A 1971 graduate of the United States Air Force Academy, he holds a DPhil in politics from Oxford University, a Masters Degree in international relations from the Fletcher School of Law and Diplomacy, and a Masters of Public Administration degree from the American University.

Colonel Foerster began his Air Force career with service in Southeast Asia and Washington, D.C., as an intelligence officer and politico-military affairs officer. Before his assignment to Omaha, Colonel Foerster served in Vienna, Austria, as Special Assistant to the Ambassador in the U.S. Delegation to the Conference on Security and Cooperation in Europe (CSCE) and in the U.S. Delegation which negotiated the Conventional Armed Forces in Europe (CFE) Treaty. Colonel Foerster also served in the Office of the Defense Advisor, U.S. Mission to NATO, Brussels, Belgium; as Tenure Associate Professor and director of International and Defense Studies in the USAF Academy Department of Political Science; and as a National Security Fellow at the John F. Kennedy School of Government at Harvard University. He has written several articles on strategy and arms control and is co-author of *Defining Stability: Conventional Arms Control in a Changing Europe* (published in 1989 by Westview Press) and co-editor and contributing author for the sixth edition of *American Defense Policy* (published in 1990 by Johns Hopkins University Press).

Colonel Foerster is also a graduate of the Air War College, the Air Command and Staff College, and USAF Squadron Officers School. His military decorations include the Defense Superior Service Medal, Legion of Merit, Bronze Star, Defense Meritorious Service Medal, Meritorious Service Medal, the Air Force Commendation Medal with two oak leaf clusters, and the Air Force Achievement Medal.

JOHN ISAACS

John Isaacs has worked at the Council for a Livable World since 1976, and has served as executive director and president since 1991. Council for a Livable World is an organization founded in 1902 by eminent nuclear physicist Leo Szilard to warn the public and Congress of the threat of nuclear war. The Council lobbies Congress on arms control and other national security issues. It is also a political action committee raising funds for Senate and House candidates.

Some of the major issues of the Council at this time are Comprehensive Test Ban Treaty, deep reductions in nuclear weapons, non-proliferation, Star Wars, military budget, UN peacekeeping, conventional arms transfers, aid to the former Soviet Union and Chemical Weapons Convention.

Previously Isaacs worked as a legislative assistant for former New York Representative Stephen Solarz, legislative representative at Americans for Democratic Action and as a Foreign Service Officer. He writes extensively for Bulletin of the Atomic Scientists and other publications. Each year he analyzes the military budget, prepares issue briefs on the subject, and helps to organize campaigns to reduce the budget.

DR. KERRY M. KARTCHNER

Dr. Kerry M. Kartchner is currently the United States Arms Control and Disarmament Agency Representative to the Joint Compliance and Inspection Commission in Geneva, Switzerland, where he serves as Chairman of the Inspection Protocol Working Group. He is a senior Foreign Affairs Specialist in the Bureau of Strategic and Eurasian Affairs with over fourteen years experience in the field of national security affairs, with particular emphasis on nuclear weapons policy, nuclear targeting, and arms control.

Prior to his current assignment, he was a member of the Bureau of Intelligence, Verification, and Information Support, and served as chairman of the interagency START verification and compliance

analysis working group, with responsibilities for preparing the START section of the annual compliance report, drafting guidance for U.S. inspectors and monitors, and assessing contemporary compliance issues. Before coming to ACDA, he was Senior Policy Analyst and Area Leader for Arms Control at Analytic Services (ANSER) in Arlington, Virginia. There he oversaw a staff working on multiple arms control and strategic analysis projects for Air Force clients.

From 1986 to 1990, he was an Assistant Professor of National Security Affairs at the Naval Postgraduate School in Monterey, California, where he developed and taught courses on nuclear strategy and targeting doctrine, arms control, international relations, U.S.-Soviet diplomatic relations, and NATO security. He also served as liaison between the Strategic Planning Curriculum and the Navy staff, performing studies and analyses for the Navy's Strategic and Theater Nuclear Warfare Division (formerly OP-65).

Prior to that time, he served as a consultant on nuclear weapons policy to the Computer Sciences Corporation in Albuquerque, New Mexico, and the National Institute for Public Policy in Washington, D.C. He has been a Visiting Scholar at the Hoover Institution (1989-90), a graduate student instructor at the University of Southern California (1985), and Adjunct Professor of National Security Affairs at the Naval Postgraduate School (1984-86). Dr. Kartchner is the recipient of a Hubert H. Humphrey Arms Control Fellowship, administered by the U.S. Arms Control and Disarmament Agency (1983-84). He is the author of *Negotiating START: Strategic Arms Reduction Talks and the Quest for Strategic Stability* (New Brunswick: Transaction Publishers, 1992), as well as numerous technical reports for U.S. Navy and Air Force sponsors. His Ph.D. in International Relations is from the University of Southern California (1987), and his B.A. is from Brigham Young University (1981).

He is married, and has three daughters.

DAVID A. KAY

Dr. David A. Kay is a Vice President of SAIC and Manger of the Special Studies Division.

Dr. Kay joined SAIC in 1993 where he has served as Assistant Vice President of Science Applications International Corporation from 1993 to 1995 and from 1995 to 1996 as Senior Vice President of Hicks and Associates, Inc., a wholly owned SAIC subsidiary. He has led an ARPA-financed project on the technology options available for counterproliferation. He also has led Air Force-funded studies to analyze possible breakout pathways for Iraq to resume its nuclear weapons program. For the Office of the Secretary of Defense, he conducted proliferation threat analyses. Dr. Kay also has led counter-proliferation and counter-terrorism related studies for a number of other government clients.

From 1992 to 1993 Dr. Kay was Secretary General of the Uranium Institute, in London, United Kingdom, which is the international industrial association for energy from nuclear fuel, comprising 82 companies from 21 countries. The Institute provides independent research services on the supply, demand, and trade of uranium and nuclear fuel, and conducts research on issues that affect the trade in nuclear fuel. *

Prior to this, Dr. Kay served as Deputy Leader of the Iraqi Action Team of the International Atomic Energy Agency (IAEA) in Vienna, Austria from 1991 to 1992. He was Chief Inspector for three inspections to determine Iraqi nuclear weapons production capability following the end of the Gulf War. He led teams that found and identified the scope and extent of Iraqi uranium enrichment activities, located the major Iraqi center for assembly of nuclear weapons, and seized large amounts of documents on the Iraqi nuclear weapons program. He also analyzed the nature of the Iraqi nuclear program and its implications for non-proliferation and arms control activities.

From 1983 to 1991, Dr. Kay was Head of the Evaluation Section of the IAEA. He was chief evaluation officer of the Agency, with responsibility for evaluating all the Agency's technical cooperation activities. His responsibilities included developing methodologies and guidelines for conducting

evaluations, evaluation training, and organizing and coordinating all project and program evaluations. In all, he evaluated more than 800 projects with external financing of over \$100 million in such diverse fields as nuclear medicine, agriculture, manpower development, nuclear power and safety, and nuclear science.

As a Senior Evaluation Officer with the United Nations Educational, Scientific, and Cultural Organization (UNESCO) in Paris, France from 1979 to 1983, Dr. Kay established the first evaluation system in the organization to cover regular program and operational field activities. From 1974 to 1978, Dr. Kay was Director of the International Organization Research Project for the American Society of International Law (ASIL). He led a State Department-funded project to evaluate three UN programs: international narcotics control, nutrition programs, and safeguard of nuclear materials. Before this, Dr. Kay was principal investigator for an ASIL contract with the National Science Foundation to explore how international-level management and regulatory techniques could be applied to a variety of areas, including pesticide residues in food, international trade in pharmaceuticals, earth resource satellites.

Dr. Kay served as Adjunct Professor of Public and International Affairs at the George Washington University's Graduate School of Public and International Affairs from 1975 to 1977. He was Professor of Political Science at the University of Wisconsin at Madison from 1973 to 1975, where he previously served as Associate Professor from 1970 and Assistant Professor from 1966. He also served as Associate Professor of Political Science at Columbia University from 1969 to 1970. He was editor of *International Organization* from 1971 to 1974.

Dr. Kay has served on a number of official U.S. government delegations and government and private advisory commissions, including the U.S. State Department's Advisory Commission on International Organizations, the Rockefeller Foundation's Advisory Group on Conflicts in International Relations, and the U.S. Delegation to the Preparatory Committee for the Seventh Special Session of the UN General Assembly.

Dr. Kay holds a B.A. degree from the University of Texas at Austin and a Masters in International Affairs and Ph.D. degrees from Columbia University. He is the recipient of the IAEA's Distinguished Service Award and the U.S. Secretary of State's Commendation.

PETER R. LAVOY

Peter R. Lavoy is Assistant Professor in the Department of National Security Affairs at the Naval Postgraduate School. Prior to taking this position in 1993, he worked as a Research Fellow at the Center for Security and Technology Studies at Lawrence Livermore National Laboratory (1992-93) and at the Center for International Security and Arms Control at Stanford University (1991-92).

At the Naval Postgraduate School, Professor Lavoy teaches graduate courses and supervises student Master's theses on nuclear strategy, nuclear proliferation, conventional arms transfers, South Asian security issues, and international relations. His primary research interests include the causes and strategic consequences of various types of weapons proliferation, U.S. nuclear weapons policy, and the political and strategic affairs of India and Pakistan.

Professor Lavoy's recent publications include: "Nuclear Arms Control in South Asia," in *Arms Control Toward the Twenty-First Century*, ed. Jeffrey A. Larsen and Gregory J. Rattray (Boulder, Colo.: Lynne Rienner, 1996); co-editor of *Deterrence after the Cold War: Theoretical Perspectives and Policy Implications of Enduring Rivalries*, special issue of *Security Studies*, vol. 6, no. 1 (forthcoming, Autumn 1996); "The Strategic Consequences of Nuclear Proliferation," *Security Studies*, vol. 4, no. 4 (Summer 1995); "Nuclear Doctrines and Deterrence Concepts of the New Nuclear States: New Views on the Military and Political Uses of Nuclear Weapons?" in *The Absolute Weapon Revisited: Nuclear Arms in a Transformed World* (forthcoming, 1996); "Avoiding Nuclear War," (with C. Raja Mohan) in *Crisis Prevention, Confidence Building, and Reconciliation in South Asia*, ed. Michael Krepon and Amit Sevak (New York: St. Martin's, 1995); "Civil-Military Relations, Strategic Conduct, and the Stability of Nuclear

Deterrence in South Asia," in *Civil-Military Relations and Nuclear Weapons*, ed. Scott D. Sagan (Stanford: Center for International Security and Arms Control, 1994); "Nuclear Myths and the Causes of Nuclear Proliferation," *Security Studies*, vol. 2, nos. 3/4 (Spring/Summer 1993); and editor, *The Future of Foreign Nuclear Materials* (Monterey, Calif.: National Security Affairs Department, Naval Postgraduate School, 1995).

Professor Lavoy has traveled extensively in South Asia. He speaks and reads Hindi and Urdu. He has participated in several regional confidence-building workshops with Indians and Pakistanis, including the biannual U.S.-Pakistan Joint Symposium (Washington, D.C., December 1995) and *Traveling Seminar V: U.S. Foreign Policy in South Asia*, a USIA-sponsored forum in which he acted as the conference moderator (Karachi, Pakistan and New Delhi, India, December 1994).

Professor Lavoy will receive his Ph.D. in Political Science from the University of California, Berkeley in Autumn 1996. He earned a B.A. in Government and graduated with High Honors from Oberlin College in May 1983. He also attended the Berkeley Urdu Language Program in Lahore, Pakistan (1989-1990) and the Graduate Institute of International Studies in Geneva, Switzerland (1981-82).

Professor Lavoy serves as a Consultant to Lawrence Livermore National Laboratory. He is also an Editorial Board Member for *Nonproliferation Analysis*, the first electronic international journal for scholarly and policy-oriented analyses of weapons proliferation and nonproliferation. Professor Lavoy holds a Top Secret and "Q" Clearance.

RONALD FRANK LEHMAN II

The Honorable Ronald F. Lehman II is Assistant to the Director of the Department of Energy's Lawrence Livermore National Laboratory (LLNL). An employee of the University of California, Ron specializes in the evaluation of the impact of new technologies on foreign, domestic, economic and national security policies. President Clinton recently appointed Ron to the five-member President's Advisory Board on Arms Proliferation Policy.

Ron Lehman was the Director of the U.S. Arms Control and Disarmament Agency under President George Bush. Previously, he was appointed by President Ronald Reagan to serve in the Defense Department as Assistant Secretary for International Security Policy, in the State Department as Ambassador/U.S. Chief Negotiator on Strategic Offensive Arms (START), and in the White House as Deputy Assistant to the President for National Security Affairs. He has also served on the National Security Council Staff as a Senior Director, on the Professional Staff of the U.S. Senate Armed Services Committee, and as a district advisor in Vietnam commissioned in the United States Army Military Intelligence Branch.

Ron Lehman is a member of the Council on Foreign Relations, the Atlantic Council, the International Institute for Strategic Studies, and the World Affairs Council of Northern California. Ron is Chairman of the Board of Directors of the Keck Center for International and Strategic Studies of Claremont McKenna College (CMC) and serves on the International Advisory Board of the University of California's multicampus Institute on Global Conflict and Cooperation (IGCC).

At ACDA, Ron was a member of the National Space Council and the Export Administration Review Board (EARB) and was on the Board of Directors of the United States Institute of Peace. He was Head of the U.S. Delegations to the Fourth Review Conference of the Non-Proliferation Treaty and the Third Review Conference of the Biological Weapons Convention, was Deputy Head of Delegation for the signing of the Chemical Weapons Convention, and was four times a U.S. Representative to the United Nations First Committee. He participated in the Arms Control and Regional Security Working Group of the Multilateral Middle East Peace Process.

While at the Defense Department, he was Chairman of the NATO High Level Group (HLG) on NATO nuclear forces policy and was a member of the Defense Resources Board (DRB), the Defense Acquisition Board (DAB), and the Executive Committee of the On-Site Inspection Agency (OSIA). He also served as an Executive Branch Commissioner-Observer on the Commission on Security and Cooperation in Europe (CSCE). Earlier, he had served as a Senior Advisor to the U.S. Delegation to the United Nations Special Session on Disarmament; a delegation member at the U.S.-USSR bilateral discussions on nuclear proliferation; and as a representative to the U.S.-Soviet talks on Direct Communications Links.

Ron Lehman was born in California's Napa Valley in 1946, received his B.A. from Claremont McKenna College in 1968 and his Ph.D. from the Claremont Graduate School in 1975. He went to Washington, D.C., in 1975 as a Public Affairs Fellow of the Hoover Institution on War, Revolution and Peace at Stanford University, and in 1980, served with the Office of Policy Coordination of president-elect Ronald Reagan. As an Adjunct Professor, he taught graduate level courses in Georgetown University's National Security Studies Program. Ron Lehman and his wife, Susan, reside in Palo Alto, California.

JOSEPH F. PILAT

Mr. Pilat is a research analyst with the Nonproliferation and International Security Division of the Los Alamos National Laboratory in Los Alamos, New Mexico.

BRAD ROBERTS

Brad Roberts is a member of the research staff of the Strategy, Forces, and Resources Division of the Institute for Defense Analyses, providing research and analysis to the Department of Defense and other government sponsors on issues related to the proliferation and control of weapons of mass destruction and to national and international security policy.

Mr. Roberts joined the Institute for Defense Analyses in September 1995. Previously, he held twin appointments at the Center for Strategic and International Studies as a research fellow in international security studies and editor of *The Washington Quarterly*.

Mr. Roberts has written extensively on the proliferation and control of weapons of mass destruction, including, of particular note to these proceedings, an Autumn 1992 article entitled, "Arms Control and the End of the Cold War." He recently authored the book *Weapons Proliferation and World Order After the Cold War* (1996), and has edited many others, including *New Forces in the World Order* (1996); *Order and Disorder After the Cold War* (1995); *Ratifying the Chemical Weapons Convention* (1994); *Biological Weapons in the 1990s: Weapons of the Future?* (1993); and *U.S. Security in an Uncertain Era* (1993).

Mr. Roberts is a graduate of Stanford University with a B.A. in International Relations, as well as a B.A. in German Studies. He earned his Masters degree in International Relations from the London School of Economics and Political Science, and holds a Ph.D. in Political Science from Erasmus University, Rotterdam, The Netherlands.

Mr. Roberts has given speeches and seminar presentations to nearly 100 institutions in over a dozen countries, and has given testimony to five different congressional committees. He also serves as an adjunct professor at the Elliott School of International Studies at George Washington University, chairman of the research advisory council of the Chemical and Biological Arms Control Institute, and a consultant to the Los Alamos National Laboratory.

LEONARD S. SPECTOR

Leonard S. Spector is a Senior Associate at the Carnegie Endowment for International Peace and Director of the Endowment's Nuclear Non-Proliferation Project, with staff and activities in Washington, D.C., and Moscow.

A frequent commentator on nuclear affairs in the media, Mr. Spector is the author of five books on the spread of nuclear weapons. He recently completed the Carnegie Endowment's latest survey of the field, *Tracking Nuclear Proliferation: A Guide in Maps and Charts, 1995* (Leonard S. Spector and Mark G. McDonough, with Evan Medeiros, Washington, D.C.: Carnegie Endowment for Int'l Peace, 1995).

Mr. Spector has been active in the nuclear non-proliferation field for nearly twenty years, working first at the Nuclear Regulatory Commission and later as Chief Counsel to the Senate Energy and Nuclear Proliferation Subcommittee. While with the Subcommittee, Mr. Spector assisted in drafting the Nuclear Non-Proliferation Act, one of the basic laws governing U.S. policy today.

Mr. Spector joined the Carnegie Endowment in 1984 and has led the Nuclear Non-Proliferation Project since its inception that year. In addition to contributing to its publications, Mr. Spector has chaired Project-sponsored task forces on Nuclear Weapons and South Asian Security and on Nuclear Proliferation and the Korean Peninsula. He also convenes and chairs the Project's yearly international non-proliferation conferences, begun in 1988. In 1994, Mr. Spector launched a major expansion of the Project's activities, with the addition of a new program on post-Soviet nuclear affairs based at the Carnegie Endowment's Moscow Center.

Mr. Spector is a graduate of Williams College and holds a law degree from Yale Law School. Among his professional activities, he is Secretary and member of the Board of Trustees of the Henry L. Stimson Center and also serves on senior advisory panels at the Sandia National Laboratories, the Los Alamos National Laboratory, and the National Research Council of the National Academy of Sciences. Mr. Spector is a member of the Council on Foreign Relations and is a nuclear affairs columnist for the *Seoul Shinmun*.

In addition to *Tracking Nuclear Proliferation*, Mr. Spector's recent publications include, "U.S. Fissile Material Inventories," *Encarta - The Microsoft Encyclopedia* (1996); "Nuclear Proliferation Outside the Nuclear Weapon States," Canberra Commission on the Elimination of Nuclear Weapons (January 1996); and "Neo-nonproliferation," *Survival* (London: Int'l Institute for Strategic Studies, Spring 1995).

FORREST E. WALLER, JR.

Mr. Waller is a division manager and senior policy analyst in the National Security Studies and Strategies Group of Science Applications International Corporation. His experience includes military service in the U.S. Air Force and fellowships at the State Department and the Center for Strategic and International Studies.

At SAIC, Mr. Waller leads a team of policy analysts who provide national security policy support to Headquarters United States Air Force. This team has provided to the Air Force analyses on (a) arms control treaty implementation requirements of various treaties; (b) counterproliferation policy, resource, and policy implementation issues; and (c) national security issues arising from the Clinton Administration's Nuclear Posture Review. Mr. Waller has organized roundtables for senior Air Staff planners on a variety of national security topics, including START implementation, counterproliferation, and defense program planning. He has provided inputs to Air Force reports to the Congress, prepared transition materials for change of Presidential Administrations, and provided the Air Force with real-time analysis of American and Russian negotiating positions on strategic arms control issues. His publications for the Air Force include *The Air Force Chemical Weapons Agreements Compliance Plan*, *The Air Force START Special*

Access Visit Compliance Plan, Operational Support for Arms Control Agreements (Air Force Policy Directive 16-6), and *The Air Force Guide to the START Treaties*.

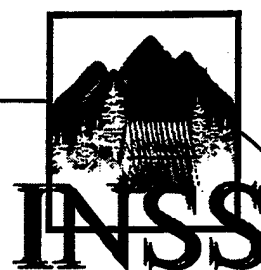
While in the Air Force, Mr. Waller served for four years as Senior Military Advisor for Strategic Arms Control Policy in the Office of the Assistant Secretary of Defense for International Security Policy. There, he was responsible for initiating, developing, and coordinating strategic arms control policy in the Department of Defense in support of the START Talks and for supporting Senior DOD officials with analysis, briefings, articles, and Congressional testimony on arms control topics. He participated as a policy analyst and advisor on a variety of interagency task forces and committees, including the 1989 National Security Review of U.S. arms control objectives and the START Backstopping Committee. Mr. Waller was an arms control advisor on the U.S. START Negotiating Group in Geneva from 1988 until Treaty signature in 1991. Following Treaty signature, Mr. Waller became OSD member of the interagency working group responsible for preparing *The Article-by-Article Analysis of the START Treaty* and other Executive Branch documents required for Senate advice and consent to ratification. He is author of Office of Strategic Arms Control Policy's *Policy Advisor's Guide to the START Treaty*.

Mr. Waller also served for two years as Senior USSR Strategic Forces Analyst in the Office of the Assistant Chief of Staff, Air Force Intelligence, where he was responsible for developing and coordinating Air Force intelligence estimates on Soviet strategic forces and in reviewing all threat assessments supporting Air Force strategic modernization programs. He participated as an intelligence analyst and writer on the Intelligence Community committee responsible for preparing National Intelligence Estimates on Soviet strategic forces. He is co-author of NIE 11-3/8-87, *Soviet Forces and Capabilities for Strategic Nuclear Conflict*.

Mr. Waller is also the author of "Soviet Military Perceptions of the Strategic Nuclear Balance," (*Perestroika and Soviet Defense Policy*, Charles Duch (ed.), Praeger Publishers, 1991); "Women are settling in to life in the military," (*The Washington Times*, January 13, 1991); and "Paradox and False Economy: Military Reform and High Technology," (*Air University Review*, May-June 1983), which won AUR's Best Article Award. He earned his B.S. in International Affairs from the United States Air Force Academy, and holds an M.P.A. in International Affairs from Princeton University.

JAMES WIRTZ

Dr. Wirtz is an associate professor of national security affairs at the Naval Postgraduate School in Monterey, California.



Administrative Materials

Correspondence

Arms Control in the 21st Century

16 July 1996

XXXX
XXXX
XXXX
XXXX

Dear XXXX:

It is my pleasure to invite you to participate in the Headquarters Air Force National Security Studies Conference, "Arms Control in the 21st Century", to be held 6-7 August 1996 in Arlington, VA. The conference is being sponsored jointly by the Headquarters Air Force National Security Negotiations Division (AF/XOXI) and the USAF Institute for National Security Studies (INSS). The purpose of this conference is to examine the future role of arms control and its implications for the United States and the U.S. Air Force.

Four principal topic areas will be addressed during the conference:

- To examine U.S. arms control experiences of the past to determine if there are lessons learned that could enhance future U.S. arms control efforts.
- To ascertain the efficacy of arms control as a national security tool in the 21st century, by exploring possible strengths and weaknesses in the concept and U.S. reliance upon it.
- To identify how arms control will be used to enhance stability and security in the emerging international order.
- To develop alternative U.S. and Air Force responses to future arms control scenarios.

The conference will begin with a opening presentation which has been designed to challenge the conferees and establish the intellectual foundation for the conference. This presentation will be followed by a plenary panel which will examine the lessons learned from arms control and how they might apply in the 21st century. The panel will be made up of a moderator and three or four experts in the field of arms control.

The plenary panel will be followed by the formation of four concurrent working groups, each of whom will address an issue of singular importance to the overall concept of arms control. Each conferee will be assigned to one of the working groups in the following topical areas:

- Working Group 1 -- Strategic Offensive Arms Control
- Working Group 2 -- Strategic Defensive Arms Control
- Working Group 3 -- Conventional Arms Control
- Working Group 4 -- Regional Arms Control

The second day of the conference will begin with a plenary panel which will present alternative views on the future role of arms control in U.S. national security planning. The working groups will reconvene following the panel presentations to continue discussion on the future of arms control.

The final phase of the conference is structured around a joint session where the working group chairman provide an informal presentation of the results of their respective sessions to the conferees. In addition, these reports plus the results of the plenary panels will be incorporated in a final report and made available to each conferee.

If you are able to attend, we intend to assign you to Working Group X, but we will be receptive to your desires. Someone from our staff will be contacting you shortly to determine your attendance.

The conference has been structured to draw on the background and expertise of recognized specialists from a wide range of government organizations, to include the U.S. military branches and the Joint Staff, various think tanks, and private industry. We expect that approximately 60 people will attend.

The conference will be held at ANSER, Inc., located at 1215 Jefferson Davis Highway, Arlington, VA (Crystal Gateway Three). It will begin at 0830 on 6 August and should conclude no later than 1615 the following day. A reception and dinner will be held on the evening of 6 August beginning at 1800 at the Crystal City Marriott Hotel, 1999 Jefferson Davis Highway, in Crystal City. The dinner will feature a keynote address by Ambassador Ron Lehman, assistant to the director, Lawrence Livermore National Laboratory, and former director of the U.S. Arms Control and Disarmament Agency.

A fee of \$50 will be charged to cover the administrative expenses to include the cost of the banquet on the evening of 6 August. Please bring either a check or cash which will collected on the morning of 6 August. The attachment to this letter provides more information on these logistics, including menu selections for the dinner.

I sincerely hope that you are able to join us. We have invited a number of exceptionally qualified participants, and the conference promises to be an interesting, challenging, and stimulating experience. We look forward to meeting with you in August.

Sincerely,

TODD A. BODENHAMER, Lt Colonel, USAF
Chief, National Security Negotiations Division
Directorate of Plans, DCS/P&O

16 July 1996

XXXX
XXXX
XXXX
XXXX

Dear XXXX:

It is my pleasure to invite you to participate in the Headquarters Air Force National Security Studies Conference, "Arms Control in the 21st Century", to be held 6-7 August 1996 in Arlington, VA. The conference is being sponsored jointly by the Headquarters Air Force National Security Negotiations Division (AF/XOXI) and the USAF Institute for National Security Studies (INSS). The purpose of this conference is to examine the future role of arms control and its implications for the United States and the U.S. Air Force.

Four principal topic areas will be addressed during the conference:

- To examine U.S. arms control experiences of the past to determine if there are lessons learned that could enhance future U.S. arms control efforts.
- To ascertain the efficacy of arms control as a national security tool in the 21st century, by exploring possible strengths and weaknesses in the concept and U.S. reliance upon it.
- To identify how arms control will be used to enhance stability and security in the emerging international order.
- To develop alternative U.S. and Air Force responses to future arms control scenarios.

The conference will begin with a opening presentation which has been designed to challenge the conferees and establish the intellectual foundation for the conference. This presentation will be followed by a plenary panel which will examine the lessons learned from arms control and how they might apply in the 21st century. The panel will be made up of a moderator and three or four experts in the field of arms control.

The plenary panel will be followed by the formation of four concurrent working groups, each of whom will address an issue of singular importance to the overall concept of arms control. Each conferee will be assigned to one of the working groups in the following topical areas:

- Working Group 1 -- Strategic Offensive Arms Control
- Working Group 2 -- Strategic Defensive Arms Control
- Working Group 3 -- Conventional Arms Control
- Working Group 4 -- Regional Arms Control

The second day of the conference will begin with a plenary panel which will present alternative views on the future role of arms control in U.S. national security planning. The working groups will reconvene following the panel presentations to continue discussion on the future of arms control.

The final phase of the conference is structured around a joint session where the working group chairman provide an informal presentation of the results of their respective sessions to the conferees. In addition, these reports plus the results of the plenary panels will be incorporated in a final report and made available to each conferee.

If you are able to attend, we intend to assign you to Working Group X, but we will be receptive to your desires. Someone from our staff will be contacting you shortly to determine your attendance.

The conference has been structured to draw on the background and expertise of recognized specialists from a wide range of government organizations, to include the U.S. military branches and the Joint Staff, various think tanks, and private industry. We expect that approximately 60 people will attend.

The conference will be held at ANSER, Inc., located at 1215 Jefferson Davis Highway, Arlington, VA (Crystal Gateway Three). It will begin at 0830 on 6 August and should conclude no later than 1615 the following day. A reception and dinner will be held on the evening of 6 August beginning at 1800 at the Crystal City Marriott Hotel, 1999 Jefferson Davis Highway, in Crystal City. The dinner will feature a keynote address by Ambassador Ron Lehman, assistant to the director, Lawrence Livermore National Laboratory, and former director of the U.S. Arms Control and Disarmament Agency.

Please be advised that the Air Force has reserved a block of 40 rooms (first come-first served until 22 July) at the Marriott Crystal Gateway Hotel, which is within easy walking distance of the ANSER conference facility. An approved U.S. Government rate of \$113.04 inclusive of taxes has been negotiated. A fee of \$50 will be charged to cover the administrative expenses to include the cost of the banquet on the evening of 6 August. Please bring either a check or cash which will be collected on the morning of 6 August. The attachment to this letter provides more information on these logistics, including menu selections for the dinner. Please note the overnight accommodations are at the Marriott Crystal Gateway Hotel, however the banquet is being held at the Marriott Crystal City Hotel.

I sincerely hope that you are able to join us. We have invited a number of exceptionally qualified participants, and the conference promises to be an interesting, challenging, and stimulating experience. We look forward to meeting with you in August.

Sincerely,

SIGNED

TODD A. BODENHAMER, Lt Colonel, USAF
Chief, National Security Negotiations Division
Directorate of Plans, DCS/P&O