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MUTUAL SECURITY AND ARMS REDUCTIONS IN EUROPE:
A JOINT SOVIET-AMERICAN SIMULATION EXERCISE

by

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**MUTUAL SECURITY AND ARMS REDUCTIONS IN EUROPE:
A JOINT SOVIET-AMERICAN SIMULATION EXERCISE**

An Advanced Research Project

by

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JUNE 1990

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EXECUTIVE SUMMARY

The time is ripe for a reassessment of the military balance in Europe within an explicit mutual security framework. This is especially appropriate at a time when a new set of negotiations on Conventional Forces in Europe (CFE) have been opened in Vienna. The negotiations in Europe are centered around the principle that numerical parity should be sought in several major weapons categories and that principle will likely form the basis for a first phase (CFE I) agreement in the near future. It is also likely that such an agreement alone will not guarantee stability in Europe, nor will it free many of the resources needed by both alliances to meet domestic economic objectives. These larger goals of conventional stability and economic restructuring will require both deeper numerical cuts and restructuring of military forces. How to achieve these larger goals is the basis of a research project being undertaken by the Center for Foreign Policy Development at Brown University in collaboration with the Institute for USA and Canada Studies of the Academy of Sciences of the USSR. The primary purpose of this project is to develop and test, via a joint Soviet-American simulation, models for conventional force reductions in Europe. The project will also evaluate the usefulness of the results from this simulation for providing guidance to negotiators in a second phase of negotiations on CFE which might follow after a first phase agreement in current talks in Vienna.

Abstract of
MUTUAL SECURITY AND ARMS REDUCTIONS IN EUROPE:
A JOINT SOVIET-AMERICAN SIMULATION EXERCISE

Current negotiations on Conventional Forces in Europe (CFE) use the principle that numerical parity should be sought in several major weapons categories. However, this may not guarantee stability in Europe. This project, scheduled to be completed in late 1991, tests ways to guarantee that stability by analyzing a method to reduce conventional arms in Europe following CFE I. The method used is an approach based upon the metaphor of the child's game of "I cut, you choose." This paper provides an historical record of the project to date, provides the necessary background information to play the game, and projects, over the next 20 years, the strategic environment in which the arms reductions will take place.



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PREFACE

The project of which this paper is a part has a broad scope and will take over two years to complete. The subjects covered in this paper (the background of conventional arms control, the European strategic environment and the start of the actual simulation) are each a candidate for research on their own. This paper has as its purpose to provide only a basic outline of these subjects for consideration. If the reader does not agree with some of the conclusions or projections made, they should substitute their analysis and determine how that change affects the simulation.

The extensive data used to create a starting point for the simulation is all unclassified and represents the best which could be obtained. The purpose was, however, to provide a realistic start point for the simulation and not to present actual force structure.

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**MUTUAL SECURITY AND ARMS REDUCTIONS IN EUROPE:
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CHAPTER I

INTRODUCTION

The Problem. The Cold War is over and we have won. Whether this is true or not, the subject of conventional arms control is receiving both national and international interests from a variety of sources. The time is ripe for a reassessment of the military balance in Europe within an explicit mutual security framework. Preliminary agreement has already been reached in Vienna on the principle that numerical parity should be sought in several major weapons categories in Europe and that principle will likely form the basis for a first phase agreement in the near future. However, it is also likely that such an agreement alone will not guarantee stability in Europe, nor will it free many of the resources needed by both alliances to meet domestic economic objectives. These larger goals of conventional stability and economic restructuring will require both deeper numerical cuts and restructuring of military forces. How to negotiate these longer-term agreements on conventional forces in Europe has not yet been seriously considered in either Washington or Moscow, Brussels or Warsaw.

The Purpose. Parity of major force units does not guarantee joint improvements in security. These forces consist of armaments with significant qualitative differences, they operate within the context of very different strategic and tactical doctrines, and

they are structured quite differently. Therefore, parity alone between the members of the NATO Alliance and those of the Warsaw Pact cannot remain a sufficient goal for achieving mutual security in Europe. Parity of insecurity is not the long-term strategy for reductions that will lead to an overall symmetry that produces joint improvements in security, whether or not based on a strict symmetry of specific military units. This project explores long-term approaches to negotiating major arms reductions in Europe in ways that will promote mutual security. In this endeavor, an investigation of alternative models for achieving mutual security in European armaments and forces, a joint simulation exercise designed to explore these models is employed. The specific purpose of this project, therefore, is to simulate a phase 2 negotiation on Conventional forces in Europe (CFE), the goal of which is to produce an overall reduction of forty percent beyond the force levels reached in a probable CFE I agreement.

This paper represents only a portion of the scope of the project. Specifically, it provides both the background needed to begin the simulation and reports on the actions and issues raised during the preparation phase and the beginning of the initial round of play. In addition and perhaps most importantly, this paper will attempt to point out the collection of asymmetries which makes conventional arms control negotiations so complex. At the macro-level these asymmetries exist as differences between the two treaty organizations: structure of the WTO versus NATO, geographic locations affecting strategies, and the overall policies and goals.

At the level of the individual nations involved, the asymmetries become even more complex: the need for national armies for national defense versus total European security, the different economic and political needs and interests of each country compared to those of the two treaty organizations and those of Europe as a whole. All these individual yet related concerns must be included in the arms reduction procedures.

Organization for Simulation Play. To provide the most realistic simulation possible, the researchers formed organizations similar to those found in NATO and the Warsaw Pact. A complete list of these researchers is at Appendix I.

The Warsaw Treaty Organization (WTO) was simulated by the researchers in the Institute for USA and Canada Studies (ISKAN) OF the Academy of Sciences of the USSR. For NATO, the Military Committee was simulated by the researchers at the Naval War College, Newport, Rhode Island. This Military Committee is responsible for making recommendations to the Council and to the Defense Planning Committee on those measures considered necessary for the common defense of the NATO area. Both the Council and the Defence Planning Committee were simulated by the researchers at Brown University in the Center for Foreign Policy. In this paper, any references to the Council or the committees will be to those organizations simulated and not to the real organizations.

CHAPTER II

BACKGROUND TO NEGOTIATION ON CONVENTIONAL FORCES IN EUROPE

Before CFE. As stated in Chapter I, the simulation used in this project to conduct the arms reductions begins at the projected conclusion of the ongoing CFE I negotiations. Thus, the background of CFE and the assumed results of CFE I play an important part in this project.

The post World War II environment in Europe has been largely defined by the USSR's military preponderance in the region and the U.S. policy of containment using a strategy of extended deterrence and forward deployed forces. Following World War II, Soviet efforts to increase its military superiority and to retain its conventional attack advantages initiated one of the first attempts at a structural approach to arms control with the mutual and balanced force reductions talks (MBFR). During the MBFR talks, initiated in 1973, "... the West sought asymmetrical reductions in which Warsaw Pact forces would be reduced in far greater numbers than would NATO forces, arguing that since the East enjoyed a conventional force superiority such asymmetrical cuts would be needed to help right the balance".¹ The East asserted that any advantage over NATO was insignificant and that reductions should be equal. This structural approach to conventional arms control relies on statistical information and data analysis in order to quantify forces and measure combat potential. The resultant data

base provides the basis for designing the proposals and agreements. This structural approach worked well for the nuclear arms agreements but failed to produce results during the thirteen years the MBFR talks were conducted. The most often stated reason for the failure of the MBFR talks is the inability of the East to provide an acceptable data base upon which to center the proposals. Jonathan Dean, head of the U.S. delegation to MBFR from 1978 to 1981, presents a different reason for this failure:

The foremost reason that no agreement has been achieved in the MBFR talks is the failure of both the United States and the Soviet Union to accord them sustained high-level interest....For the United States, and probably for the Soviet Union, multilateral arms control negotiations like MBFR...have failed to achieve top-priority interest because they are not considered, rightly or wrongly, to involve issues of national survival.²

CFE: An Outline. In March of 1989, representatives of all sixteen NATO and seven Warsaw Pact countries met in Vienna in an effort to negotiate a conventional arms control agreement encompassing an area defined from the Atlantic to the Urals (ATTU). The U.S. Arms Control and Disarmament Agency (ACDA) states that "The scope of the Negotiation on Conventional Armed Forces in Europe (CFE) sets it apart from previous conventional arms talks, which included only some members of NATO and the Warsaw Pact and focused exclusively on central Europe."³ The CFE chronology reported by ACDA is shown in Table II-1.

The objectives of the CFE negotiations include achievement of conventional military balance and the stability and security in Europe through the establishment of a stable and secure

TABLE II-1

CFE CHRONOLOGY

JAN 10, 1989	MEMBERS INITIAL A MANDATE DEFINING SCOPE AND FORM OF CFE
MAR 9, 1989	NATO PROPOSES REDUCTION AND LIMITATION OF TANKS, ARMORED COMBAT VEHICLES AND ARTILLERY
MAR 23, 1989	ROUND 1 CONCLUDES
MAY 5, 1989	ROUND 2 OPENS
MAY 29-30, 1989	AT NATO SUMMIT, NATO AGREES TO EXPAND SCOPE TO INCLUDE MANPOWER, COMBAT AIRCRAFT, HELICOPTERS
JUL 13, 1989	NATO PRESENTS PROPOSAL INCORPORATING INITIATIVES FROM MAY NATO SUMMIT
JUL 13, 1989	ROUND 2 CONCLUDES
SEP 7, 1989	ROUND 3 OPENS
SEP 22, 1989	WEST PROPOSES INFORMATION EXCHANGE, STABILIZING MEASURES, NON-CIRCUMVENTION AND VERIFICATION
OCT 19, 1989	WARSAW PACT TABLES PROPOSAL SIMILAR TO THAT PRESENTED BY NATO ON 22 SEP.
OCT 19, 1989	ROUND 3 OF CONCLUDES
NOV 9, 1989	ROUND 4 OPENS
DEC 14, 1989	CFE MEMBERS PACT TABLE DRAFT TREATY TEXT
DEC 21, 1989	ROUND 4 CONCLUDES
JAN 12, 1990	ROUND 5 OPENS
FEB 8, 1990	WESTERN NATIONS TABLE NEW PROPOSALS ON AIRCRAFT AND PERSONNEL LEVELS
FEB 13, 1990	LIMITS U.S. AND SOVIET GROUND AND AIR FORCE PERSONNEL IN CENTRAL AND EASTERN EUROPE TO 195,000 EACH AND THE U.S. TO 30,000 IN EUROPE OUTSIDE THIS REGION
FEB 22, 1990	NATO PROPOSES AN INSPECTION PROTOCOL
MAR 15, 1990	ROUND 6 OPENS. NATO PROPOSES A PROTOCOL AN DESTRUCTION AND A TREATY ARTICLE ON REDUCTIONS

balance of conventional armed forces at lower levels, the elimination of disparities prejudicial to stability and security, and the elimination of the capability for launching surprise attack and for initiating large-scale offensive action. With these as objectives, NATO seeks a new European order, both politically and militarily. As would be expected, the elements of such a treaty are numerous and complex: equipment and manpower levels; verification and compliance, demobilization and destruction, stabilizing measures, regional differentiation and sufficiency.

Elements of CFE. A key element of the negotiations will be the identification of the type of equipment to be reduced and the levels to which that equipment is limited. Current CFE focus centered on tanks, armored combat vehicles (ACVs), and field artillery (FA) as constituting the central elements of surprise attack or other offensive action. In May 1989, President Bush proposed three additional categories to be considered by CFE: manpower, combat aircraft and attack helicopters. CFE members have agreed to include these new categories in the negotiations.⁴

Tanks, seen as the chief instrument of offensive operations, are to be reduced and limited to 20,000 by both NATO and the Warsaw Pact. Armored Combat Vehicles (ACVs), including armored personnel carriers and armored infantry fighting vehicles, are considered a crucial factor in providing the mobility required for offensive combat. Reduction of ACVs to alleviate a large Warsaw Pact superiority is a main effort of NATO. Field Artillery is necessary to achieve fire power in offensive operations and, like tanks and

ACVs, requires reduction to reduce a large Warsaw Pact advantage. Both sides have generally agreed on definitions for field artillery and are negotiating the levels FA is to be reduced to. NATO has proposed that all land-based combat aircraft be significantly reduced in the ATTU region because of its versatility and mobility. The East has not yet responded to this NATO proposal concerning aircraft. The East has agreed that combat helicopters should be reduced because of their ability to add fire support, flexibility and mobility to the battlefield. Current negotiations on combat helicopters are centered on a definition of the types of helicopters to be included in this category. Table II-2 summarizes NATO and Warsaw Pact proposals on levels that equipment is to be reduced. In many areas where there seems to be agreement, the vast numbers and types of equipment owned by the twenty-three nations participating in CFE causes continual problems in the identification of what specific equipment is counted in each category. The classification of vehicles as to being in active units or in storage is an additional item for discussions on types of equipment. Current CFE negotiations have not decided on the issue of stored versus equipment in active units. The most probable solution to this issue is to rule that only 80% of the ceiling on a nation's equipment can be in active units with 20% being in storage. This simulation uses this 80%/20% rule but does not, however, differentiate from POMCUS type equipment and that equipment which is only stored due to manpower shortages or some other reason.

TABLE II-2		
NATO AND WARSAW PACT PROPOSALS: EQUIPMENT LIMITS IN ATTU		
EQUIPMENT	NATO PROPOSAL	WTO PROPOSAL
MAIN BATTLE TANKS	20,000	20,000
FIELD ARTILLERY	16,500	20,000
ARMORED COMBAT VEH	30,000	28,000
COMBAT AIRCRAFT*	4,700	4,700
AD INTERCEPTORS	500	1,000
COMBAT HELICOPTERS	1,900	1,900
MANPOWER	195,000 EACH IN CENTRAL EUROPE, U.S. AN ADDITIONAL 30,000 IN REMAINDER OF EUROPE	
* NATO's proposal refers to all land-based combat aircraft in ATTU, Warsaw Pact refers only to frontal/tactical aviation		

The elements of verification and compliance to a negotiated settlement encompassing the vast numbers of conventional equipment included in CFE are complex. With each nation having numerous types of equipment in each category, verification and compliance are among more the difficult of tasks to be undertaken. The proposal presented by the West on 22 September 1989 includes detailed data exchanges, on-site inspections and monitoring of destruction. The East proposals, while not the same, are mostly positive. This element of the treaty will most assuredly require the most detailed attention. There is justification for optimism. "There will be more mutual inspections. The first two successful inspections under the Stockholm agreement have already occurred, one in the Soviet Union and one in the German Democratic Republic. For the first time in the history of arms control and disarmament there will be large numbers of on-site inspections. That means

that both East and West will become more transparent. The two systems will relate to each other in new and different ways."⁵

The West is concerned that the elements of demobilization of withdrawn troops and the destruction of equipment to meet ceilings is a key element in ensuring our ability to monitor compliance and to prevent relocation of treaty limited items out of the zone. To date, there has been no agreement on the specifics of these elements. This simulation assumes destruction of reduced equipment.

Demobilization and destruction elements of the treaty lead into another important element: stabilizing measures. These elements include any measures that would contribute to regional confidence and stability. Included in these elements are such measures as exchange of information, provisions concerning storage of equipment, notification of movements, and constraints on the size of military activities.⁶

Regional differentiation and sufficiency are another two of the most complex elements of the CFE negotiations. The Treaty must not only address the size and type of forces by both NATO and the Warsaw Pact, but also the forces of the individual nations within the two alliances. Regional numerical limits are important to prevent destabilizing force concentrations in any region. The attainment of sufficiency will require that limits be placed on the proportion of arms held by any one country. Currently, the Warsaw Pact would allow a country to hold 35-40 percent of the total quantity of equipment permitted in the ATTU. The West proposes

that 30 percent is adequate. Table II-3 shows the differences between the two proposals.

TABLE II-3		
NATO AND WTO PROPOSALS: SUFFICIENCY RULE		
EQUIPMENT	NATO PROPOSAL	WTO PROPOSAL
MAIN BATTLE TANKS	12,000	14,000
ARTILLERY	10,000	17,000
ARMORED COMBAT VEH	16,800	18,000
COMBAT AIRCRAFT	2,280	3,400
COMBAT HELICOPTERS	1,140	1,500
MANPOWER	SEE TABLE II-2 FOR ONLY PROPOSAL MADE AT THIS TIME	

Source: United States Arms Control and Disarmament Agency, "CFE Negotiation on Conventional Armed Forces in Europe". March 1990.

To date, while the two sides have some areas of disagreement, the general feeling concerning the future of the CFE negotiations is positive. The proposals outlined in this chapter set the starting point for the simulation exercise. However, before the simulation can begin, the strategic environment in which the simulated arms control negotiations take place must be established.

CHAPTER III

THE STRATEGIC ENVIRONMENT: NATO

Preface. Arms negotiations are only one of the many elements which make up the NATO strategy. While this strategy will be discussed in detail in the following chapter, the strategy must take place in the strategic environment in which NATO exists and, if possible, continue to exist in at least the near future. Events affecting the strategic environment are taking place very rapidly and by the time these events are analyzed and future events are projected, the analysis and projections are outdated. It is not the purpose of this paper to provide a comprehensive view of the strategic environment as it may exist over the next few years. However, some view must be used in order to make political and military decisions concerning arms control. To do this, I have chosen to use research published in July 1989 by Colonels Nelson and Smith, Naval War College Fellows.¹ This reference presents the most current and up to date analysis of the strategic environment as it concerns arms control and is only modified for use in the simulation when events have occurred which may modify or change that environment. If the reader finds that his or her projections are inconsistent with those presented in this paper, then their projections should be inserted to see if the different projections will change decisions made in the conduct of the simulation.

Overview of the Strategic Environment. Arms control is but

one of many strategies nations and alliances use to carry out policy. The means available to achieve national objectives are the elements of national power that nation possesses -- political, economic and military.² These same means are the elements of power upon which an alliance can call. This strategic international environment is the environment in which arms control decisions will be made. These arms control decisions must be made within the context of the whole alliance strategy of NATO and this strategy must be defined in the socio-political and socio-economic contexts as well as military.

The bipolar world which was formed during post World War II is changing rapidly to a multipolar world. Many of the current third world nations of South America, Africa, and the Far East are becoming less dependent on the superpowers. This lessening of dependence will not produce any new superpowers in the next twenty years, but will be a factor as these nations seek increased power collectively. The raw materials and labor forces available in these countries necessitates the strengthening of political ties between them and the superpowers. The development of the multipolar world will certainly change the international economic patterns:

By 2010, the combined national products of four East Asian countries (Japan, China, South Korea, and Taiwan) will exceed the U.S. GNP (8.5 trillion 1986 dollars vs. 7.9 trillion for the U.S.) These estimates imply that Japan's average annual growth rate over the 1990-2010 period will be about 2.8 percent, China's 4.7 percent, Korea's 4.9 percent, Taiwan's 5.8 percent, and that of the U.S. 2.6 percent.³

These changing economic pattern, heavily impacted on by the 1992

Single European Economic Community, will impact heavily on existing alliance relationships and cause the formation of new alliances.

The instability in many of the third world nations, typified by events in the Middle-East, will become of more and more concern to the more powerful nations in both NATO and Warsaw Pact. The ability of any nation to project forces is heavily impacted on by any arms limitations in any specific part of the world. Any arms control agreements will have to be considered in light of these growing economic, political and military challenges.

The Threat. NATO was formed to counter the threat of the Communist Soviet Union. The creation of the Warsaw Pact saw the threat redefined in terms of the Eastern block nations. This new definition of the threat as the Warsaw Pact is widely misunderstood because of the way the Warsaw Pact is organized. Soviet political and military domination of the Warsaw pact has been a fact since the beginning of the Warsaw Treaty Organization (WTO) and has remained true until very recently. The Soviet loss of political power over the other WTO members has not affected its continued military dominance. While the next chapter will deal in greater detail with the Warsaw Pact, it remains true that currently the Soviet Union is the most dangerous threat to NATO when military capabilities are analyzed and will continue to be the most dangerous threat at the conclusion of CFE I.

The ability to analyze and define the threat posed by the USSR has never been harder to accomplish. Under Premiere Gorbachev, the USSR has taken unilateral force reductions, proposed extensive arms

control and stated that the USSR will convert from an offensive posture to one of defense (reasonable sufficiency). Gorbachev has publicly stated intentions to reform Soviet society and Soviet economy along definitions that can only be translated as being favorable to NATO. Regardless of the amount of skepticism with which one might look at these events, the rhetoric is impressive even if the results of the execution is unknown. One must remember the reasons why these actions are being taken by the USSR. The simple reason is that the Soviet system is failing and the Soviet leadership is taking all possible action to save itself. If one believes the system will be able to save itself, it must be admitted that the future will be filled with many dangerous situations as the change manifests itself throughout the Eastern block countries. If one believes the Soviet system must be destroyed completely before the Eastern block countries can attain the economic freedom they desire, then the death throws of the system could be the most dangerous threat the free world has faced. Either way, the future is unsure and the danger of military action is real since the military is the only real power with which the USSR can influence other nations. Even if Gorbachev is able to accomplish the proposed arms reduction and that the reduction is executed to in fact reduce the capability of the USSR, the objective of NATO must be to continue to provide a creditable military deterrence along the entire spectrum of the reduction. Prior to CFE I, as stated by Admiral Crowe when serving as Chairman, JCS:

Even after reducing 500,000 troops, the USSR will end up with an active military establishment of about 4.6 million personnel and the world's largest inventory of military hardware. Further, Soviet military spokesmen have said that so long as the threat of war exists in the minds of Communist Party leaders, they will maintain an effective offensive posture.⁴

This significant military capability on the part of the USSR requires that NATO maintain adequate conventional forces to ensure the credibility of its strategy.

The perception created by the USSR that there is no Soviet threat to NATO presents the Alliance with the problem of individual nations acting unilaterally to this perception. Such unilateral action, based on the perceived intent of the Warsaw Pact can bring about the dismantling of NATO policy as surely as any outside force in that unilateral action can be taken faster than any action requiring the agreement of all members of the Alliance.

The United States. The United States is still the only nation that has the political, economic, and military power to act unilaterally and at the same time, provides much of the power NATO requires to ensure its policies can be supported. While the U.S. will lose some of this power relative to other NATO countries over the next twenty years, there will be no significant change in the relative capabilities of the NATO countries. The American peoples perception of a decreased threat from the Warsaw pact coupled with dissatisfaction over burden sharing and a desire to decrease defense spending will cause the U.S. to withdraw resources from NATO in a greater amount and faster than NATO desires unless actions are taken by both NATO and the U.S. Any arms control agreements must attempt to satisfy the American people by lessening

U.S. resources for NATO and at the same time, retain adequate U.S. power in NATO to continue to provide the needed stability in Europe.

Federal Republic of Germany. The Federal Republic of Germany (FRG) is the NATO nation which will go through the most dramatic changes over the next twenty years. The two Germanies will be completely united; politically, economically and militarily, by the end of the period this paper is looking at (2010). A plan forwarded to and seemingly embraced by NATO in February of 1990 by West German Foreign Minister Hans-Dietrich Genscher proposes that although a unified Germany would be a member of NATO, NATO not station troops on East German soil and that a reduced number of Soviet troops could remain in East Germany. East German Prime Minister Lothar de Maiziere has stated that, despite Moscow's objections, his country is interested in joining NATO. The Bonn government remains strongly committed to a unified Germany's membership in NATO.⁵

The strong economic base of the FRG will be stretched to its limits as it rebuilds the East German economy. The euphoria over the united Germany will fade as economic realities set in but, the unification will be successful.

The Federal Republic is already Western Europe's leading economic power. It should soon be even stronger: unification with East Germany will increase its population 27% and its gross domestic product 24%. In the near term, however, union will entail heavy expenditures for the Bonn government. ...Bringing the East Germans social and economic infrastructure up to Western standards over the next several years will require the investment of hundreds of billions of dollars. At the same time, the combined state should be able to find considerable savings by reducing the size of the armed forces,

a step Bonn has already said it plans to take.⁶

As in the U.S., the perception of a lessening of the threat against NATO will cause the Germans to decrease even more their already decreasing defense spending. German dissatisfaction with the many impositions inherent in maintaining large numbers of foreign military troops in Germany will continue to grow. The FRG will, however, continue to support NATO commitments with a capable and modern conventional force. NATO arms control agreements must recognize these issues and support this unification. This support must include action which do not threaten Russia but supports their interests as East Germany moves from the East to the West.

France. Although withdrawing military forces from NATO in 1966, France participates fully in all other aspects of the NATO structures: NATO Air Defense Committee, the Committee for European Airspace Coordination, the Senior Civil Emergency Planning Committee, the Senior NATO Logisticians Conference, the Conference of National Armaments Directors, and , of course, CFE.⁷ France has achieved closer military ties with members of NATO through the formation of a Franco-German Brigade in 1989, the formation of a combined Franco-German Defence Council in 1988, and the formation of a five division rapid deployment force for combat in the Central Zone in 1985.

The French are currently reorganizing their conventional force structure in recognition of the economic necessities of modernizing both their nuclear and conventional forces. France will continue to meet NATO requirements with capable and modern conventional

forces and must be considered by NATO as a full member in all aspects of an arms control agreement.

The Southern Flank. While the Southern flank of NATO does not contain the vast array of superpower arsenals, it does contain the most political instability among NATO members because of Greece and Turkey. The focus of this instability, the "Aegean dispute" centers around these issues:⁸

1. The Cyprus dispute.
2. Sovereign rights and the Aegean continental shelf.
3. Territorial sea limits of nations.
4. Air traffic control zones in the Aegean area.

The forces of both Greece and Turkey are large compared to other NATO countries. Neither forces is modernized and both present large logistic problems because of the age of the equipment and the numerous different types of equipment. Both countries are also separated geographically from the rest of NATO which reduces NATO flexibility in their employment. The issues between Greece and Turkey will cause both countries to look at any arms control agreement within NATO with a much more autonomous interest than other NATO countries. NATO must satisfy the needs of these countries in respect to their national security. At the same time, the large size of the Greek and Turkish conventional forces must not be allowed to skew their importance to overall NATO strategy and plans.

United Kingdom. British policy towards NATO and the alliance members has remained consistent and is a stabilizing influence. The British have moved approximately 28% of its active force structure to the reserves over the last 25 years.⁹ The removal of

any British forces from the continent will aggravate deployment problems in a crisis and must be offset by removing Warsaw Pact capability to launch no-notice or short notice attacks in the British sector. The British will continue to fulfill NATO commitments with a capable and modern conventional force. As in the case of all European countries, a large part of British military capabilities is obligated to NATO, and any reduction of forces will have to be considered in light of British contingency plans for other areas.

Other Central European NATO Nations. Like the nations already discussed, the remainder of the nations can be expected to desire reductions in defense expenditure in order to gain other economic benefits. While these nations do not individually provide significant military structure or modern conventional forces, together they provide a significant force. Arms control agreements must consider the political importance of ensuring that all NATO members retain adequate forces to continue to meet NATO military commitments. In addition, NATO must ensure that each nation retains adequate forces for national security.

CHAPTER IV

THE STRATEGIC ENVIRONMENT: WARSAW PACT

Overview. The Warsaw Pact (The Treaty of Friendship, Co-operation and Mutual Assistance) was signed on 26 April 1985, most probably as a response to the incorporation of West Germany into NATO.¹ The Warsaw Pact is greatly misunderstood by those who see it as the same type of organization as NATO. NATO is an organization of equals in both the political and military aspects of NATO. NATO contains the structure for both peace and crisis operations. The peacetime organization of the Warsaw Pact is not designed for war:

Were war to break out, the armed forces of the countries of Eastern Europe would become subordinate to the Soviet High Command. Soviet co-ordination and control of Pact armies would be exercised: (a) directly, via the Soviet General Staff representatives in every Pact army; and (b) indirectly via the Commander-in-Chief of the Warsaw Pact and the Warsaw Pact Joint Command and Staff (which would in effect become a branch of the Soviet General Staff). There can be little doubt that, should war occur in Europe, the effective elements of the East European armed forces would not be commanded by any "Warsaw Pact" organization but they would be incorporated directly into Soviet Armies and Fronts, together with the Soviet Groups of Forces in Eastern Europe, under the command of the Soviet General Staff officers controlling the forces in the Western or South-Western Theaters of Strategic Military Activity (TVD).²

The Warsaw Pact has not been an Eastern European answer to NATO, but was initiated and controlled by the Soviets to legitimize Soviet troops in Eastern European countries and to control all Eastern European forces. While recent trends have been for the Soviets to allow increased autonomy of Eastern European nations, there is no doubt that any Warsaw Pact policies and goals are, if

not identical to Soviet policies and goals, subordinate to them. The next twenty years will see some dramatic changes to the workings of the Warsaw Pact, but any arms control proposals NATO wishes to have implemented will have to be approved by whatever Warsaw Pact system is in place. The increased economic and political independence of many of the Eastern European countries will certainly decrease the Soviet control over other Eastern bloc armies. This lessening of Soviet control will be further increased by the withdrawal of most if not all of the Soviet troops from these countries. Whether the Warsaw Pact evolves into an organization more like NATO or disintegrates as Soviet influence decreases is key. Whatever happens, NATO must conduct arms control negotiations which satisfy both the threat capabilities of the current Warsaw Pact and the individual nation armies that are left existing should the Warsaw Pact disintegrate. The relative status of Warsaw Pact armies measured in 1987 on the basis of quality of their training and of equipment furnished to them is:³

1. East Germany
2. Czechoslovakia
3. Poland
4. Bulgaria
5. Hungary
6. Romania

It could very well be stated that in the past, the Warsaw Pact was simply another name for the Soviet military reinforced by other Eastern European countries.

USSR. The key to stability in Europe lies with the Soviet Union. "If the change which we have been witnessing over the past few years are not irreversible, if all depends upon the will or the

survival of a single man, then nothing has changed and our hopes are illusions. The caution with which our governments have so far reacted to events in Russia is understandable: too much hangs on the correctness of their judgment."⁴ Political instability in the USSR is lurking very near the surface of troubled waters:

The deepening economic crisis, the progressive disintegration of the Soviet multinational state and the impact of the debacle of communism and Soviet domination in Eastern Europe have accelerated political polarization and radicalization. Both the right and the left are alarmed by the economic crisis, the nationalist violence and the pace of peaceful secessionist dissent. The right is frightened and the left is encouraged by the outcome of the East European revolution. Both are reinforced in their convictions that only they can offer a way out of the present exigency. Both engage in the mass mobilization of support for their cause while the center is even more uncertain and unsettled.⁵

The economic collapse of the USSR needs no further description in this paper: it is fully documented in daily publications around the world and described by the leaders of the USSR. The impact the economic problems of the USSR has on the Warsaw Pact can be shown by looking at each of the countries defense expenditure as a percentage of national income, and at the same time, considering that the USSR provides over half the Warsaw Pact's manpower (percentages are estimates and should be used only for general comparisons):⁶

1.	USSR	19.0%
2.	East Germany	5.0%
3.	Bulgaria	4.0%
4.	Czechoslovakia	4.0%
5.	Poland	3.5%
6.	Romania	1.7%
7.	Hungary	2.8%

The stated intentions of the Soviets are likewise printed daily in U.S. papers. If the CFE I projected level of Soviet

equipment are achieved, then Europe will most certainly be more stable. The USSR, barring dramatic changes in leadership which could produce a crisis situation in Europe, will try to help its economy by reducing conventional forces. If CFE I proposed levels for Soviet troops are met, the stability of Europe will be improved. NATO must work arms control proposals with two key issues in mind: first, the relative force sizes of forces of the USSR/WTO and NATO nations at each phase of the negotiations and, second, the modernization (capabilities) of those forces.

The NATO military concern must be the USSR/WTO capabilities throughout the arms negotiations. Smaller conventional armies do not automatically achieve stability. The USSR has not slowed modernization of ground or naval forces and, it is argued by some, that the reorganization to achieve the unilateral reductions of the Soviet ground forces have actually increased the capability of those forces. The stationing and composition of forces also becomes extremely important to reduce any advantage of "striking first". At CFE I levels, the capabilities of the Soviet military maintain that country as the most dangerous threat to NATO.

German Democratic Republic (GDR). As stated in the previous chapter, the unification of Germany will be a reality and should be a goal of NATO. An additional goal of NATO should be the inclusion of this united Germany as a full member of NATO. The economic problems of the GDR have, like those of the USSR, been openly discussed almost daily. The economic strength of the FRG will ensure the economic recovery of the GDR.

Until recently, the East German army was considered one of the most capable of the Warsaw Pact. Recent political changes have greatly reduced both the effectiveness and the loyalty of this army to the Warsaw Pact. NATO should assume that the East German army no longer poses a military threat to Western Europe. Arms control proposal should reduce the size of the East German army to a point where it can be integrated into the FRG army. The GDR forces should also be reduced to levels which, while balancing Soviet forces remaining in East Germany, do not present a military threat to the USSR. A final goal for arms negotiations to meet would be a Eastern Germany free of Soviet Forces and with the only active German forces being border guard units.

Czechoslovakia. Czechoslovakia is in a relatively good economic position relative to its Eastern bloc neighbors and, even with the highly centralized economy enforced by the Soviets on the Czechs after the 1986 invasion, have introduced measures to provide better signals and incentives for improving efficiency.⁷ As the communist government under Jakes, which was resistant to Gorbachev led reforms, is replaced, the Czechs will become an Eastern bloc leader in support of policies favorable to NATO.

As Czechoslovakia continues to gain autonomy with stronger political leadership, its military, which has remained loyal to the Warsaw Pact in the past, will become more dedicated to its own countries political desires. Like the army of Eastern Germany, the Czech military was very capable until recent political events caused some reduction of its capabilities. The Czech army is large

and highly mechanized. With the removal of all Soviet troops from Czechoslovakia, the Czech army should be reduced in relation to the other Warsaw Pact nations.

Hungary. Hungary, now the "Republic of Hungary, an independent state with plans to hold multiparty elections"⁸ like Czechoslovakia, is in somewhat better economic shape than its neighbors. Hungary does, however have problems with a high inflation rate, a high per capita debt, and have maintained workers' living standards at artificially high levels.⁹

The withdrawal of Soviet troops from Hungary at CFE I, the small size of its army, its lack of offensive equipment, and the prevalent anti-soviet attitude in the army, make Hungary of little threat to NATO. Arms reduction in Hungary should be in relation to that of other countries, keeping in mind the disputes between Hungary, Romania and Yugoslavia over disputed territory.

Poland. While the Polish military is relatively strong and efficient compared to other non-Soviet Warsaw Pact forces, their anti-Soviet history combined with their pro-Western political desires makes their contribution to any Warsaw Pact offensive moves doubtful.¹⁰ While Poland could sustain military operations against NATO, any threat from Polish forces as a part of the Warsaw Pact is small. Arms control agreements must recognize the need to balance Polish forces both with the Soviet forces remaining in Poland and with the military forces of Germany and Czechoslovakia.

Bulgaria. The Bulgarian military forces have been extremely loyal and pro-Soviet in the past. Their armed forces are numeri-

cally quite large in relation to the population, but have little modernization. Offensive capabilities would be limited to local operations against Greece or Turkey in support of Soviet offensive operations against NATO. Their defensive capabilities are adequate against any threat from Greece. Independent offensive capabilities against Yugoslavia or Romania is marginally adequate.¹¹

Romania. Rumania is potentially a prosperous country but past economic policies will take some time to build a strong and lasting economic base. The lack of any strong resistance movement during the Ceausescu regime has resulted in the new government of Romania being weak in organization and plans.¹²

The military of Romania showed loyalty to the reform movement in the revolution against Ceausescu which included heavy fighting against the Securitate. In addition, this army seems to have accepted civilian leadership even though it was much better organized than the resultant temporary political leadership. The army is anti-communist and can be expected to support the movement to democracy by Romania. Current political actions and anti-Soviet feelings combined with almost no offensive capability rule out the possibility of any offensive action against NATO. The deterioration of Rumanian military forces due to political and economic turmoil will continue to occur and arms control agreements should recognize the need for Romania to maintain a small defensive capability.

Summary. With this brief look and the Warsaw Pact, it becomes clear that only at the initiation of the Soviet Union is there any

real threat to NATO. With this in mind, arms reductions must be negotiated in such a manner that NATO retains a sufficient and creditable force designed to counter the military capabilities of the Soviet Union.

CHAPTER V
NATO POLICY AND STRATEGY

Arms control must support the policies and strategies of the nations conducting the negotiations. To ensure this simulation meets this requirement, the NATO security objectives, defense policy, and defense strategy were reviewed and compared with NATO conventional arms reduction objectives and strategy. Prior to this review, the NATO Council provided the Military Committee with several possible European scenerios which are shown at Appendix II. The guidance given the Military Committee was to prepare arms control proposals which supported an expanded NATO including (some) East Europe countries and a minimum Warsaw Pact containing a weaker but still somewhat threatening Soviet Union. The guidance continued to add that NATO arms control proposals should not negate a long term possibility of a Europe where each country retained a limited territorial defense and NATO and the WTO are replaced by an all-Europe military with a peace keeping force with both the U.S. and USSR playing a role. . The Military Committee then reviewed current NATO policy, objectives and strategy as shown below.

NATO Security Objectives. The members of NATO state as their purpose:¹

The Parties to this Treaty reaffirm their faith in the purposes and principles of the Charter of the United Nations and their desire to live in peace with all peoples and all Governments.

They are determined to safeguard the freedom, common heritage and civilization of their peoples, founded on the principles of democracy, individual liberty and the rule of law.

They seek to promote stability and well-being in the North Atlantic area.

They are resolved to unite their efforts for collective defence and for the preservation of peace and security.

With the above purpose unchanged, the current NATO security objectives were reviewed and it was decided no change to these objectives were needed. These objectives, which appear as Articles in the Treaty, are summarized below and arms control proposals should be consistent with the objectives:²

1. To safeguard the freedom, common heritage and civilization of their peoples, founded on the principles of democracy, individual liberty and the rule of law.
2. To promote stability and well-being in the North Atlantic area.
3. To unite their efforts for collective defence and for the preservation of peace and security.
4. To settle any international dispute in which they may be involved by peaceful means in such a manner that international peace and security and justice are not endangered, and to refrain in their international relations from the threat of use of force in any manner inconsistent with the purposes of the United Nations.
5. To further develop peaceful and friendly international relations by strengthening their free institutions, by bringing about a better understanding of the principles upon which these institutions are founded, and by promoting conditions of stability and well-being. Seek to eliminate conflict in their international economic policies and encourage economic collaboration between any or all of them.
6. By means of continuous and effective self-help and mutual aid, will maintain and develop their individual and collective capacity to resist armed attack.
7. To consult together whenever, in the opinion of any of them, the territorial integrity, political independence or security of any of the parties is threatened.
8. To consider an armed attack against one or more of them in Europe or North America as an attack against them all, and consequently, if such an armed attack occurs, to assist the

party or parties so attacked by taking forthwith, individually, and in concert with the other parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area.

NATO Defense Policy. A review of the NATO defense policy indicated that the current NATO defense policy was adequate and that it correctly gives emphasis to the objectives which should be supported by arms control. This two part policy is summarized below:³

1. Safeguard the Security of member nations by deterring aggression. In the event of aggression, re-establish the territorial integrity of the North Atlantic area.
2. Maintain sufficient forces to preserve a military balance with the Warsaw Pact and provide a credible deterrent.

NATO Defense Strategy. The current three part NATO defense strategy: (1) Forward Defense, (2) Follow-On Forces Attack (FOFA), and (3) Flexible Response was also found to be adequate for the simulation but does need to be looked at in terms of decreasing forces.

The current plans supporting a forward defense will require continual analysis as the levels of conventional forces are reduced. Current NATO conventional strength is marginally adequate to cover its Western borders. Since NATO is a defensive alliance, it gives up the advantages of offense and most probably will always accept the first blow. This disadvantage is made even greater by the geographies which make lateral movement of NATO forces much more difficult than that of the Warsaw Pact forces. Thus, arms controls must include the need for increased warning time of an impending attack upon NATO. This can be accomplished in two ways:

first, reducing Warsaw Pact units nearer the NATO border and second, by reducing Warsaw Pact equipment which adds to their ability to conduct high speed attacks. Conversely, NATO should retain border units and units which make up large, mobile reserves.

The ability to attack the rear echelons of the enemy before they enter the main battle (FOFA) is a strategy which NATO desires to keep. This strategy requires NATO to keep those weapons which can strike deep in the enemies rear and those units and equipment which can target deep in the enemies rear.

NATO must maintain forces to respond to any level of aggression and must possess a full spectrum of forces so that it can counter any act of aggression with an appropriate response (Flexible Response). This strategy creates one of the most complex problems of arms control. It would be relatively easy to determine what force structure NATO needs at the end of negotiations as long as you know the force structure of the threat. The task is more difficult when you must ensure a sufficient force structure to deter the enemy at all times during the phases of the negotiation. A change in the force structure of the threat during the negotiations may change NATO's required force structure. In addition, flexible response requires all three legs of the triad (conventional forces, short-range nuclear forces, and strategic nuclear forces) be sufficient to meet the threat capabilities.

NATO Arms Control Objectives and Strategy. After reviewing NATO overall policies and NATO defense policies and strategies, the groups simulating the Defense Planning Committee and the Military

Committee met jointly and approved the the following NATO Conventional Arms Control Objectives and Strategy:

NATO CONVENTIONAL ARMS REDUCTION OBJECTIVES

1. To produce an orderly, stable and predictable method of arms reduction, leading to an easing of East/West tensions, enhancing the security of all peoples.
2. To retain the military forces required to protect and further the policies and objectives of the NATO Treaty.
3. To Reduce the threat of war by:
 - a. Establishing a more secure and stable balance of conventional forces at lower levels in Europe.
 - b. Force reductions resulting in 30-60 day reaction time based on the transparency of the mobilization effort required to execute a successful surprise cross border attack.
4. Accomplish objectives without presenting significant obstacles to eventual unification of Europe absent the WTO or NATO as they now exist.

NATO CONVENTIONAL ARMS REDUCTION STRATEGY

1. Withdrawal from eastern europe of many Soviet first-line tank and motorized rifle units with their armaments to areas outside the ATTU.
2. Limit Soviet mobilization capability.
3. Improve NATO/WTO force-to-space ratios.
4. Create military balance between individual nations in NATO and in Warsaw Pact.

CHAPTER VI

RULES FOR THE SIMULATION

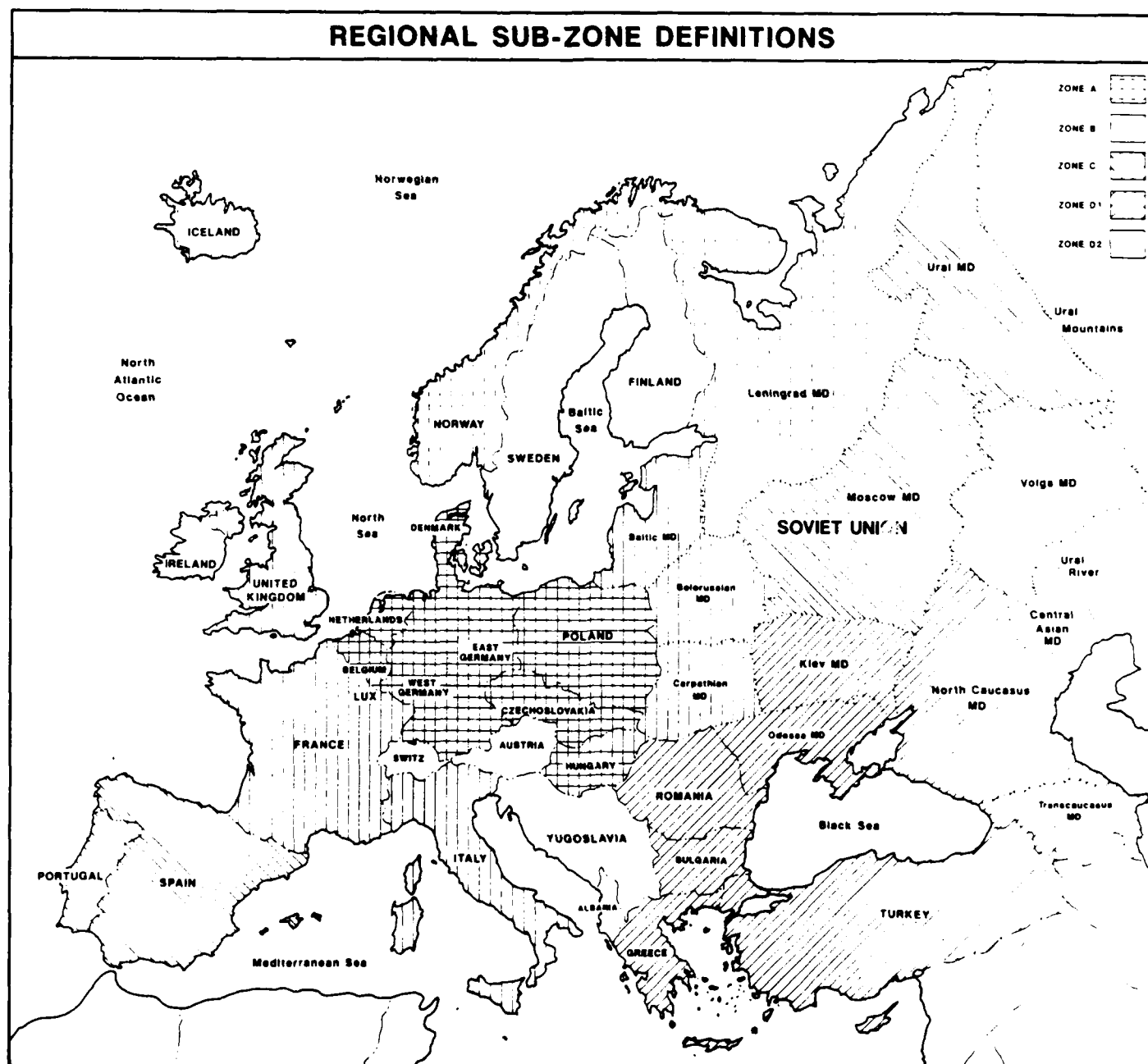
Ground Rules. The project is so designed that detailed procedures for carrying out the simulation are the products of continuing negotiations. Several ground rules, however, were essential before any detailed rules were made:

1. It must be clear that this exercise is purely unofficial. Although we hope to have some consultation with government specialists on both sides, their participation will also be unofficial.

2. It is essential that the procedures and results of this exercise are not binding on any country; the results can be evaluated independently, and, if the results are unsatisfactory, both sides may agree to disregard the experiment altogether. Alternatively, we might decide to revise the procedure and to try additional experiments to test the revised procedure. Finally, if the results are encouraging, we hope that the two institutes will recommend this procedure to officials in their respective governments; obviously, neither government will be obligated to act on the results of this exercise.

3. The experiment will have to be based on publicly available and somewhat imperfect data; the use of this procedure as a basis for actual negotiations would require a more complete development of data. Acceptance of any data for this experiment does not imply the acceptance by either of the accuracy of those data.

Reductions by Geographic Area. Reductions will be taken by country or Military District (MD), taking into account the distribution of armaments by zone, in accordance with the ceilings identified for each zone in CFE I (see map below).



These zones include:

1. Zone A:
 - a. WTO: GDR, Poland, Czechoslovakia, Hungary.
 - b. NATO: Belgium, FRG, Netherlands, Denmark, Luxembourg.
2. Zone B:
 - a. WTO: USSR's Carpathian, Baltic and Belorussian MDs.
 - b. NATO: UK, France and Italy.
3. Zone C:
 - a. WTO: USSR's Moscow and Volga-Ural MDs.
 - b. NATO: Spain and Portugal.
4. Zone D1:
 - a. WTO: Bulgaria, Rumania; USSR's Odessa, Kiev, Transcaucus and North Caucus MDs.
 - b. NATO: Greece and Turkey.
5. Zone D2:
 - a. WTO: USSR's Leningrad MD.
 - b. NATO: Norway and Iceland.

Armaments. All forces based on land including ground armies, land-based air forces and land-based naval aviation will be included in the simulations in accordance with the following rules:

1. All strategic bombers (to be included in a START agreement) and 800 strategic air defense aircraft of the USSR will be excluded.

2. Data for ground forces will be broken down by major military categories agreed upon in CFE I, and will include

identification of country of origin and country/MD where they are stationed. The armament categories will include:

- a. Main Battle Tanks (TK)
- b. Field Artillery (FA) greater than 100mm
- c. Armored Combat Vehicles (ACV)
- d. Combat Helicopters (CH)
- e. Combat Aircraft (CA)

3. Reductions will start from a point after previously announced unilateral reductions and the provisions of CFE I have been implemented. At the start of Round one, NATO and the WTO will each have a maximum of the number of armaments in the entire ATTU region as shown below. No more than 80% of the ceiling for each type of equipment can be in an actively manned unit, the remainder must be in storage.

- a. 20,000 Main Battle Tanks.
- b. 28,000 Armored Combat Vehicles.
- c. 26,000 Field Artillery pieces.
- d. 1,900 Combat Helicopters.
- e. 5,700 Combat Aircraft.

Manpower. Manpower will be distributed according to the following guidelines:

- 1. U.S. will not exceed 195,000 personnel in Zone A and 30,000 personnel in the remaining Zones.
- 2. All other NATO countries will retain their present manpower levels (approximately 2.0 million), allowing NATO a total ceiling of 2,225,000 ground forces and 482,000 air

forces in the ATTU.

3. The USSR will have no troops in Hungary or Czechoslovakia and will not exceed 195,000 personnel in the GDR and Poland combined.

4. The USSR will have a ceiling of 1,760,000 personnel in Soviet territory West of the Urals and other WTO members will retain their current manpower levels of approximately 840,000. Thus, WTO will have a ceiling of 2.8 million ground forces and 425,000 air forces in the ATTU at exercise start.

5. Manpower will not be reduced as a separate category but in accordance with the following ratio of manpower and equipment:

a. WTO:

- For each tank, ACV, or FA piece: 41 personnel.
- For each helicopter or aircraft: 56 personnel.

b. NATO:

- For each tank, ACV, or FA piece: 32 personnel.
- For each helicopter: 32 personnel.
- For each combat aircraft: 85 personnel.

6. Manpower will be withdrawn in hypothetical units of battalion, brigade or equivalent sizes.

Value Points. Each side will assign 10,000 points to the armaments according to their perceptions of the contribution of each element to their own force structure. Reductions will take place in increments of 400 points in each of 10 rounds of play. At the end, 4,000 points (40%) of the 10,000 will be reduced. Each side will be permitted to select the 400 points which represent

forces of the other side that it perceives to be most threatening. The corresponding armaments will then be removed from the inventory of each side along with the associated manpower.

Forces will be withdrawn in hypothetical units of battalion, brigade, or equivalent size. Each side may reorganize its forces after each cut within each of the five zones. Forces may also be removed from Zone A and D1/D2 to Zones B or C, but no forces may be moved in the reverse direction.

After taking its reductions and making any reorganizations or force movements, each side may redistribute its remaining points among its remaining forces. This process will be repeated until each side has reduced by 4,000 points. After each two periods, the exercise will pause briefly to permit discussion of previous moves and to allow any modification of the simulation deemed necessary by both sides.

Special Provisions. The following special limitations and provisions will apply to the exercise:

1. U.S. and USSR stationed forces in Zone A may not be reduced below 100,000 personnel and associated armaments.
2. Forces may not be introduced into the region from outside the reduction area, e.g., U.S., Canada, or the USSR East of the Urals.
3. Passive and immobile barrier defenses in Zone A will be excluded from reduction.
4. All strategic and tactical communications, intelligence and warning systems will be exempt from

reductions.

5. Reductions will not preclude agreement on the Confidence and Security Building Measures (CSBMs), limitations of offensive elements such as mobile bridging equipment, or other provisions which might be negotiated between rounds of the exercise, all of which could implement quantitative reductions in order to reduce tensions and enhance mutual security in Europe.

It is important to note again that when at all possible, rules for the simulation are to match as closely as possible the negotiated CFE positions. It was necessary, however, to choose a specific time at which the rules for the starting positions and the first two rounds of play so that necessary simulation events could take place. The actual time the rules were frozen was during a meeting in Moscow in February 1990. Also at that time, the political environment was frozen for the start of the game. Even though it was agreed that the first two rounds would be played in the world environment as it existed in February of 1990, this did not mean that the two sides should not project world events when preparing their strategies.

CHAPTER VII

EXERCISE START AND ROUND ONE

In April 1990, the two sides exchanged starting positions for the simulation during meetings conducted at the Naval War College. This exchange of information included the spread of equipment in each Zone by the owning country as well as the country in which the equipment was stationed and the units to which the equipment belonged. Also included were the value points assigned to each piece of equipment. This exchanged information is summarized in this chapter.

NATO Starting Position. Appendix III contains a copy of the document specifying the NATO starting position for Round One. The equipment levels of NATO compared to the allowable ceiling is shown in Table VII-1. To achieve these levels, the following reductions were made to current NATO structure:

1. Deactivation of the U.S. 8TH Mechanized Infantry Division stationed in Zone A.
2. Deactivated the U.S. Reinforced Infantry Airborne Battalion stationed in Italy.
3. Reduced U.S. air forces personnel in Zones B,C, and D1/D2 by approximately one-half of one air wing.
4. Any other reductions in NATO were done by percentage decreases across all countries until ceilings were met. None of these reductions were significant to the start of the simulation.

TABLE VII-1 NATO STARTING LEVELS COMPARED TO CEILINGS					
	TANKS	ACV	FA	AH	AC
STARTING LEVELS	20000	28000	15592	1900	4738
CEILING	20000	28000	26000	1900	5700

While it was stated that CFE I did not significantly change the force structure of NATO, the reader is reminded that the project starts after CFE I and that little analysis was done on the implications of the force structure changes on NATO. The reductions were made in accordance with unclassified CFE I documents in order to attempt to mirror post CFE I force structure.

WTO Starting Position. Unlike NATO, the WTO had to make significant reductions to meet CFE I levels. Such large reductions by the WTO would require significant analysis to determine their remaining capabilities. Table VII-2 shows the Soviet and non-Soviet reductions by category of equipment (personnel reductions have not been furnished by the WTO players). The significance of these reductions can be seen in the approximately 60% reductions in Soviet ground equipment and the approximately 50% reductions in non-Soviet forces. Table VII-3 shows the number of heavy maneuver divisions (tank and motorized rifle divisions (MRDs)) the Soviets reported prior to CFE I and the number remaining at the start of the simulation.

TABLE VII-2						
TOTAL WTO REDUCTIONS TO MEET CFE I LEVELS						
COUNTRY	LEVEL	TANKS	ACV	FA	ATK HEL	CBT AC*
SOVIETS	START	31280	44143	27735	1420	
	# CUT	21160	27337	17733	280	
	CFE I	10120	16806	10002	1140	3420
NON-SOVIETS	START	13280	18587	10785	335	
	# CUT	6982	7393	5579	85	
	CFE I	6298	11194	5206	250	2104
WTO TOTALS**	START	44560	62730	38520	1755	
	# CUT	28142	34730	23312	365	
	CFE I	16418	28000	15208	1390	5524
* Soviets did not furnish pre CFE-I level for combat aircraft ** Stored equipment not counted in totals: 1880 soviet tanks, 1702 non-soviet tanks, and 1292 non-soviet FA pieces.						

TABLE VII-3					
PRE AND POST CFE I MANEUVER DIVISION TOTALS					
ZONE	COUNTRY	TANK DIVISIONS		MRDs	
		PRE-CFE	POST CFE	PRE-CFE	POST CFE
A	GDR	2	0	4	4
A	CZECH	5	2	5	3
A	POL	5	0	7	9
A	HUN	1	.66	3	2
A	USSR	17.66	3	14	4
B	USSR	14	6	17	4
C	USSR	3	1	10	4
D1	BUL	0	.66	8	5
D1	ROM	2	1	8	3
D1	USSR	8	8	29	7
D2	USSR	0	0	9	3

Tables VII-4 through VII-8 show the equipment reductions in each zone by Soviet and non-Soviet forces.

TABLE VII-4						
WTO REDUCTIONS IN ZONE A TO MEET CFE I LEVELS						
COUNTRY	LEVEL	TANKS	ACV	FA	ATK HEL	CBT AC*
GDR	START	1540	2206	1070	100	
	# CUT	900	238	398	35	
	CFE I	640	1968	672	65	319
HUNGARY	START	1300	2000	800	100	
	# CUT	872	1310	584	45	
	CFE I	428	690	216	55	145
CZECH	START	3070	3750	2100	40	
	# CUT	1778	1784	972	0	
	CFE I	1292	1966	1128	40	420
POLAND	START	3190	4679	2845	55	
	# CUT	1516	2231	1641	0	
	CFE I	1674	2448	1204	55	630
SOVIET WGF (GDR)	START	5790	5987	3250	350	
	# CUT	4790	3839	2338	0	
	CFE I	1000	2148	912	350	615
SOVIET NGF (POLAND)	START	600	664	380	120	
	# CUT	180	+164	20	50	
	CFE I	420	828	360	70	225
SOVIET CGF (CZECH)	START	1470	1767	1075	100	
	# CUT	1470	1767	1075	100	
	CFE I	0	0	0	0	0
SOVIET SGF (HUN)	START	1200	1126	760	60	
	# CUT	1200	1126	760	60	
	CFE I	0	0	0	0	0
ZONE A TOTALS	START	18160	22179	12280	835	
	# CUT	12710	12131	7788	200	
	CFE I	5450	10048	4492	635	2354
* Soviets did not furnish pre CFE-I level for combat aircraft						

TABLE VII-5						
WTO REDUCTIONS IN ZONE B TO MEET CFE I LEVELS						
COUNTRY	LEVEL	TANKS	ACV	FA	ATK HEL	CBT AC*
SOVIET BALTIC MD	START	2090	2870	2220	100	
	# CUT	1238	1644	1314	0	
	CFE I	852	1226	906	100	225
SOVIET BELORUSS- IAN MD	START	3300	3117	2290	170	
	# CUT	2228	1421	1198	20	
	CFE I	1072	1696	1092	150	305
SOVIET CARPATH- IAN MD	START	2970	4626	2530	70	
	# CUT	2118	3600	1660	0	
	CFE I	852	1026	870	70	300
ZONE B TOTALS	START	8360	10613	7040	340	
	# CUT	5584	6565	2868	20	
	CFE I	2776	3948	4172	320	830
* Soviets did not furnish pre CFE-I level for combat aircraft						

TABLE VII-6						
WTO REDUCTIONS IN ZONE C TO MEET CFE I LEVELS						
COUNTRY	LEVEL	TANKS	ACV	FA	ATK HEL	CBT AC*
SOVIET MOSCOW MD	START	1430	2645	1730	50	
	# CUT	674	1227	1088	0	
	CFE I	756	1418	642	50	310
SOVIET VULGA- URAL MD	START	1430	2420	1565	50	
	# CUT	990	1480	1121	0	
	CFE I	440	940	444	50	90
ZONE C TOTALS	START	2860	5065	3295	100	
	# CUT	1655	2707	2209	0	
	CFE I	1205	2358	1086	100	400
* Soviets did not furnish pre CFE-I level for combat aircraft						

TABLE VII-7

WTO REDUCTIONS IN ZONE D1 TO MEET CFE I LEVELS

COUNTRY	LEVEL	TANKS	ACV	FA	ATK HEL	CBT AC*
SOVIET ODESSA MD	START	1760	3512	2045	100	
	# CUT	908	2286	1139	50	
	CFE I	852	1226	906	50	180
SOVIET KIEV MD	START	3190	3770	2880	100	
	# CUT	1926	2658	1872	20	
	CFE I	1264	1112	1008	80	315
SOVIET N. CAUCUS MD	START	1650	2859	1780	50	
	# CUT	798	1833	1198	0	
	CFE I	852	1026	582	50	225
SOVIET TRANS- CAUSUS MD	START	2420	4829	2970	150	
	# CUT	1320	2279	1644	50	
	CFE I	1100	2550	1326	100	495
BULGARIA	START	1760	1990	1720	40	
	# CUT	472	+444	598	5	
	CFE I	1288	2434	1122	35	240
ROMANIA	START	2420	3962	2250	0	
	# CUT	1444	2274	1386	0	
	CFE I	976	1688	864	0	350
ZONE D1 TOTALS	START	13200	20922	13645	440	
	# CUT	6868	10886	7837	125	
	CFE I	6332	10036	5808	315	1805

* Soviets did not furnish pre CFE-I level for combat aircraft

TABLE VII-8

WTO REDUCTIONS IN ZONE D2 TO MEET CFE I LEVELS

COUNTRY	LEVEL	TANKS	ACV	FA	ATK HEL	CBT AC*
SOVIET LINNIN- GRAD MD	START	1980	3951	2260	40	
	# CUT	1320	2341	1306	20	
	CFE I	660	1610	954	20	135

* Soviets did not furnish pre CFE-I level for combat aircraft

The post CFE I force structure of the WTO reflects both the reduction of units required to reach simulation starting levels and the reorganization of forces to achieve the USSR announced intention to achieve a more capable defensive force. In general, the remaining divisions decreased the number of tanks in them and increased the number of ACVs.

Round One Reductions. The first round of reductions of NATO forces by the WTO did not take place in time to be included in this paper. The value points assigned to U.S. forces are shown at Appendix IV. Assignment of these points considered: quality of the equipment as well as the relative enhancement to European stability that the owning nation offered.

The Military Committee for NATO recommended the 400 points for the first round of play be used to reduce WTO forces as shown in Table VII-9. All equipment reduced was in Zone A and in an active status. The WTO round one starting levels and the value points they assigned to those forces are shown at Appendix IV.

TABLE VII-9							
RECOMMENDED REDUCTIONS OF WTO FORCES: ROUND ONE							
OWNING NATION	LOC	TANK CUTS	ACV CUTS	FA CUTS	AH CUTS	AC CUTS	PERS CUTS
USSR	GDR	520	672	336	0	158	72286
GDR	GDR	160	492	132	0	0	32144
TOTAL		680	1164	468	0	158	180687

The recommended reductions were based on the following criteria:

1. The Central Front contains the largest concentration of established combat capability and is the most crucial and dangerous area. Surprise attacks against NATO must be accomplished by the forces located in Zone A. Future U.S. military unilateral reductions to meet budget requirements will occur in Zone A, thus reducing NATO capabilities in this area. Conclusion: Reduction of WTO forces in Zone A will best stabilize the European military situation.

2. Political and economic trends indicate the USSR will be forced to reduce military forces in East Germany in the near future, thus, our choosing these forces to reduce will be non-threatening to the USSR. The near term status of East Germany requires some USSR military continue to be stationed there to balance East Germany's military. Conclusion: some but not all USSR forces stationed in East Germany should be reduced.

3. Political and economic trends indicate a united Germany as a member of NATO, therefore, the East German military should be reduced in order to reduce the threat of a large united German Army in the long-term and an East German military threat to the USSR in the near term. Conclusion: the East German military should be reduced.

4. Tanks and tank heavy units, supported by combat aircraft, present the most destabilizing effect to the NATO defensive alliance since they represent the most significant offensive

threat. The USSR has announced their intention to reduce tanks in order to achieve a more defensively oriented force structure. Conclusion: tanks and combat aircraft should be the focus of reduction of both USSR and the GDR forces in Zone A.

In terms of units, the USSR would reduce their Western Group of Forces by all (2) of the tank divisions, leaving three MRDs. The GDR would remove one of the four MRDs.

CHAPTER VIII

SUMMARY

It is far too early in the project to draw conclusions or to make recommendations concerning the implications of conventional arms control on future European security or the usefulness of the proposed simulation on such arms control. There are, however, some observations which can be made which are based on the work done on this project to date.

Attempts at conventional arms control in Europe are not new. Currently, however, there is sufficient political, economic and public interest in arms control to help ensure some degree of success in current negotiations. This pressure to reduce conventional forces is a two-edged sword in that while it creates the environment for success, it may also push for reductions which are not in the long term interests of European security.

The rapidly changing strategic environment in which arms control is taking place is difficult to follow, much less to project over the next twenty years. Yet, this projection must be made in order to chart a course which can be monitored and adjustments made should the projections be proven incorrect. Any other course of action is taken blindly and does not support a goal of long-term stability. It is for this reason that this project attempted to outline the future socio-economic and socio-political as well as the military environment. Unilateral actions by members of either side, taken to solve specific current issues are

dangerous to the overall future security of Europe.

Arms control agreements which consider only their impact on the European community are also dangerous. Any actions taken by the super-powers as well as many of the other rapidly developing countries in Europe affect the entire world. Power projection as well as the ability to impact events anywhere in the world are certainly impacted on by any changes to the military forces of the members of NATO and the WTO.

CFE I will make such a significant impact on the WTO countries, and especially the USSR, that any conventional arms control following CFE I will take place in an entirely new military force structure balance. This new force structure must be understood if future arms control is to be accomplished to support the future security of Europe. The levels of forces available both to treaty organizations and to individual countries must be analyzed in detail concerning both collective security and the balance of military forces among individual nations.

A final observation. A method to accomplish the reduction of forces such as proposed by this project seems to offer many advantages. Allowing sides to publicly assign values to its forces and at the same time demonstrate what forces on the other side are considered most threatening by using their value points to reduce those threatening forces should be most revealing. If the West has won the Cold War, all must win the resulting peace.

APPENDIX I

PRINCIPAL RESEARCHERS

APPENDIX I: PRINCIPAL RESEARCHERS

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APPENDIX II

POSSIBLE EUROPEAN SCENERIOS

	1. GREATER NATO	2. FORTRESS EUROPE	3. EUROPE & USSR	4. EUR-US+USSR	5. US + USSR	6. NEUTRAL GERMANY
MILITARY BALANCE/ STRUCTURE (NATO, WP)	Expanded NATO including (some) East Europe Minimum Warsaw Pact. Weaker USSR but somewhat threatening	European Defense force somewhat weak USSR	Low-level military balance between Europeans and USSR, no NATO, no WP	Each country limited to territorial defense, NATO & WP replaced by all-Europe military with peace keeping force	U.S.-Soviet mutual defense commitments; NATO replaced by Europe defense force, WP dissolved	no NATO, no Eur. defense force, force, strong German German forces, no WP, somewhat weak USSR
ECONOMIC RELATIONS/ STRUCTURE	Expanded EC. Harmonious economic relations w/US	Strong EC. economic "war" with U.S.	Europe fully integrated including some ECs, USSR & other EC's associated status European integration	no barriers to trade and investment	Protectionist EC at economic war with U.S. & USSR	EC dominated by Germany
POLITICAL RELATIONS/ STRUCTURE	Expanded European Parliament	Strong European political structure w/Eastern Europe	incipient all European structure	all-European political structure with U.S. Soviet participation	same as futures 2 or 6	any political structure dominated by Germany
U.S. Role of: Benefit to: Threats to:	"In" big player backlash to a "dark" USSR	"Out," preoccupied at home and elsewhere save military costs economic threat, seeds of conflict between Europe & USSR	"Out," preoccupied at home and elsewhere save military costs economic threat global irrelevance	"In" big player none	"Out" of Europe aligned with USSR lower military costs reduce danger of war in Europe backlash to "dark" Germany	isolated none German aggression or dark Russia
USSR Role of: Benefit to: Threats to:	"Out"	"Out," preoccupied at home NONE	"In," democratic market system at home	"In," democratic market system at home	"Out" of Europe, aligned with U.S.	weak
GERMANY Role of: Benefit to: Threats to:	integrated	Integrated, with possibility of dominating	integrated	"In"	Same as future 2 or 6	dynamic
POLAND Role of: Benefit to: Threats to:	In or Out	"In" or "Out"	"In"	"In"	can align w/Europe, U.S.-USSR, or neither	bilateral dependency on Germans
CZECHOSLOVAKIA Role of: Benefit to: Threats to:	In or Out	"In" or "Out"	"In"	"In"	can align w/Europe, U.S.-USSR, or neither	bilateral dependency on Germans
HUNGARY Role of: Benefit to: Threats to:	In or Out	"In" or "Out"	"In"	"In"	can align w/Europe, U.S.-USSR, or neither	bilateral dependency on Germans

APPENDIX III

NATO STARTING LEVELS:

ROUND ONE

APPENDIX III (NATO STARTING LEVELS OF SIMULATION PLAY),
MUTUAL SECURISTY AND ARMS REDUCTION IN EUROPE: A JOINT SOVIET-
AMERICAN SIMULATION EXERCISE.

NATO STARTING EQUIPMENT AND PERSONNEL LEVELS FOR ROUND 1

CTRY	CTRY	ZONE	STAT							
OWN	STAT	STAT	AC/ST	TANK	ACV	FA	AH	AC	GND PER	AF PER
U.S.	FRG	A	AC	1510	2000	1100	656	264	163900	25500
	NL	A	AC	0	0	0	0	24	800	2000
	UK	B	AC	0	0	0	0	279	0	22000
	SP	C	AC	0	0	0	0	72	0	5500
	GR	D1	AC	0	0	0	0	0	1500	500
	TUR	D1	AC	0	0	0	0	0	1300	500
	FRG	A	ST	2442	3447	433	0	0	0	0
	BEL	A	ST	524	708	75	0	0	1500	0
	NL	A	ST	524	708	75	0	0	0	0
BE	FRG	A	AC	160	667	194	0	126	25200	0
	BE	A	AC	160	333	54	0	0	42800	10151
	BE	A	ST	0	143	83	0	43	0	0
CAN	FRG	A	AC	60	45	35	0	52	4400	2507
			ST	0	0	0	0	0	0	0
DEN	DEN	A	AC	210	450	405	0	89	20540	4874
			ST	0	0	0	0	0	0	0
FR	FRG	A	AC	400	1300	166	50	0	77800	0
	FR	B	AC	850	2000	614	200	473	189000	47769
	FR	B	ST	100	300	340	0	30	0	0
FRG	FRG	A	AC	4330	2500	2220	344	507	332100	63077
	FRG	A	ST	100	0	0	0	21	0	0
GR	GR	D1	AC	1420	1700	1756	60	303	165000	16442
	GR	D1	ST	0	0	0	0	27	0	0
ICL	ICL	D2	AC	0	0	0	0	18	0	1300
			ST	0	0	0	0	0	0	0
IT	IT	B	AC	1500	2000	2100	100	390	265000	38369
	IT	B	ST	0	0	0	0	78	0	0
LUX	LUX	A	AC	0	5	0	0	0	695	0
			ST	0	0	0	0	0	0	0
NATO	LUX	A	AC	0	0	0	0	18	0	1530
NL	NL	A	AC	628	540	649	50	189	62300	9865
	FRG	A	AC	122	100	18	0	0	5700	5700
	NL	A	ST	100	144	10	0	0	0	0
NOR	NOR	D2	AC	117	140	522	0	83	25000	6625
	NOR	D2	ST	0	0	0	0	14	0	0
POR	POR	C	AC	66	260	260	0	99	47000	6376
			ST	0	0	0	0	0	0	0
SPN	SPN	C	AC	866	2000	1038	100	217	210000	12723
	SPN	C	ST	0	0	251	0	12	0	0
TUR	TUR	D1	AC	2884	1700	2800	100	366	380000	34647
	TUR	D1	ST	0	150	0	0	110	0	0
U.K.	FRG	A	AC	617	3760	80	200	13	55700	1100
	UK	B	AC	100	900	314	40	602	43590	48719
	UK	B	ST	210	0	0	0	219	0	0
				20000	28000	15592	1900	4738	2120825	367774

APPENDIX IV

NATO ASSIGNED VALUES:

ROUND ONE

NATO GAME SHEET FOR ROUND 1

[illegible]

APPENDIX V

WTO STARTING LEVELS AND ASSIGNED VALUES:

ROUND ONE

WARSAW PACT: FORCES AND POINTS AT BEGINNING (Before Round #1 Reductions)

ORIG ZONE	Armament Types					Personnel	
	Tanks	Artil	ACV	Aircr	Helic	GRD	AIR
	0.16000	0.12000	0.14000	0.30000	0.28000		
USSR A amt	1420	1272	2976	840	420	232388	76860
0.080 wt	0.0261	0.0175	0.0479	0.0290	0.0135		
USSR B amt	2776	2868	3948	830	320	393272	70150
0.080 wt	0.0511	0.0396	0.0635	0.0286	0.0103		
USSR C amt	1196	1086	2358	400	100	190240	30500
0.070 wt	0.0192	0.0131	0.0332	0.0121	0.0028		
USSR D1 amt	3628	3822	4974	1215	280	509384	91195
0.080 wt	0.0667	0.0527	0.0800	0.0419	0.0090		
USSR D2 amt	660	954	1610	135	20	132184	9455
0.080 wt	0.0121	0.0132	0.0259	0.0047	0.0006		
USSR ST amt	2320	0	940	0	0	0	0
0.060 wt	0.0320	0.0000	0.0113	0.0000	0.0000		
GDR A amt	640	672	1148	319	65	100860	23424
0.060 wt	0.0088	0.0070	0.0139	0.0083	0.0016		
GDR ST amt	0	0	820	0	0	0	0
0.010 wt	0.0000	0.0000	0.0016	0.0000	0.0000		
POLA A amt	1674	772	1432	630	55	158998	41785
0.060 wt	0.0231	0.0080	0.0173	0.0163	0.0013		
POLA ST amt	800	432	1016	0	0	0	0
0.020 wt	0.0037	0.0015	0.0041	0.0000	0.0000		
CZEC A amt	1292	698	1146	420	40	128576	28060
0.040 wt	0.0119	0.0048	0.0092	0.0072	0.0006		
CZEC ST amt	102	430	820	0	0	0	0
0.020 wt	0.0005	0.0015	0.0033	0.0000	0.0000		
HUNG A amt	428	216	406	145	55	43050	12200
0.040 wt	0.0039	0.0015	0.0033	0.0025	0.0009		
HUNG ST amt	0	0	284	0	0	0	0
0.010 wt	0.0000	0.0000	0.0006	0.0000	0.0000		
BULG D1 amt	1288	692	1414	240	35	139154	16775
0.060 wt	0.0178	0.0072	0.0171	0.0062	0.0008		
BULG ST amt	800	430	1020	0	0	0	0
0.020 wt	0.0037	0.0015	0.0041	0.0000	0.0000		
RUMA D1 amt	976	864	988	350	0	115948	21350
0.020 wt	0.0045	0.0030	0.0040	0.0030	0.0000		
RUMA ST amt	0	0	700	0	0	0	0
0.010 wt	0.0000	0.0000	0.0014	0.0000	0.0000		

WARSAW PACT: FORCES AND POINTS AFTER ROUND #1 REDUCTIONS:
BEGINNING DATA FOR ROUND #2 (5/29-90)

ORIG ZONE	Armament Types					Personnel	
	Tanks	Artil	ACV	Aircr	Helic	GRD	AIR
USSR A amt	900	936	2304	682	420	169740	67222
0.080 wt	0.0166	0.0129	0.0371	0.0235	0.0135		
USSR B amt	2776	2868	3948	830	320	393272	70150
0.080 wt	0.0511	0.0396	0.0635	0.0286	0.0103		
USSR C amt	1196	1086	2358	400	100	190240	30500
0.070 wt	0.0192	0.0131	0.0332	0.0121	0.0028		
USSR D1 amt	3628	3822	4974	1215	280	509384	91195
0.080 wt	0.0667	0.0527	0.0800	0.0419	0.0090		
USSR D2 amt	660	954	1610	135	20	132184	9455
0.080 wt	0.0121	0.0132	0.0259	0.0047	0.0006		
USSR ST amt	2320	0	940	0	0	0	0
0.060 wt	0.0320	0.0000	0.0113	0.0000	0.0000		
GDR A amt	480	540	656	319	65	68716	23424
0.060 wt	0.0066	0.0056	0.0079	0.0083	0.0016		
GDR ST amt	0	0	820	0	0	0	0
0.010 wt	0.0000	0.0000	0.0016	0.0000	0.0000		
POLA A amt	1674	772	1432	630	55	158998	41785
0.060 wt	0.0231	0.0080	0.0173	0.0163	0.0013		
POLA ST amt	800	432	1016	0	0	0	0
0.020 wt	0.0037	0.0015	0.0041	0.0000	0.0000		
CZEC A amt	1292	698	1146	420	40	128576	28060
0.040 wt	0.0119	0.0048	0.0092	0.0072	0.0006		
CZEC ST amt	102	430	820	0	0	0	0
0.020 wt	0.0005	0.0015	0.0033	0.0000	0.0000		
HUNG A amt	428	216	406	145	55	43050	12200
0.040 wt	0.0039	0.0015	0.0033	0.0025	0.0009		
HUNG ST amt	0	0	284	0	0	0	0
0.010 wt	0.0000	0.0000	0.0006	0.0000	0.0000		
BULG D1 amt	1288	692	1414	240	35	139154	16775
0.060 wt	0.0178	0.0072	0.0171	0.0062	0.0008		
BULG ST amt	800	430	1020	0	0	0	0
0.020 wt	0.0037	0.0015	0.0041	0.0000	0.0000		
RUMA D1 amt	976	864	988	350	0	115948	21350
0.020 wt	0.0045	0.0030	0.0040	0.0030	0.0000		
RUMA ST amt	0	0	700	0	0	0	0
0.010 wt	0.0000	0.0000	0.0014	0.0000	0.0000		

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