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SOVEREIGNTY AND PROTECTIVE ZONES IN SPACE AND
THE APPROPRIATE COMMAND AND CONTROL OF
ASSETS

by

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Preface

Space has always fascinated me. Watching the early space launches and the first steps of mankind on the moon were truly inspirational points in history that left their mark on me. I have often gazed with wonderment into space and thought about man's accomplishments there and what the future would hold. Looking at all the objects in space has made me think of how it all works or doesn't work. So, when the opportunity to do research at ACSC in an area of interest to me was presented, space came immediately to my mind. Although too large in scale for what is suppose to be a focused research project, I set out on a journey to learn and consider space from the prospect of the safety of a widget floating through its vastness down to who controls US space engagement. The starting point was to realize that the international community and the US government/military have already done a lot of thinking on space. Once I obtained a basic foundation in the quagmire of policy and doctrine, I set out to determine how space assets can be protected and what are the possible man made events to effect any given space asset. Armed with a concept of protective zones and a vague understanding of international agreements, I then looked at how assets can be engaged and who should be in control. I capitalized on the works of many to weed through the multitude of information and ideas. In the end, my journey provided me with a macro education on space, which I feel has greatly opened my horizons in this fourth dimension, and added to my toolbox of both knowledge and professional understanding. For those space experts

out there, please forgive my simple view of this medium, and for those whose works I utilized and quoted, please forgive any errors in my personal interpretations of your works.

I also want to extend my thanks to my wife, Dee, for her proof reading and long-range encouragement from her assignment at United States Pacific Command located at Camp Smith, Hawaii. To my father, Jerry Butler, one of the original international law space geeks, for his expert advice and countless explanations and my mother, Anne Butler, for her proofreading and who still can't understand how she raised a son who still fails to use the English language to her bottom standards! A special thanks to my friend and colleague Major Alan Berry for his insights and proofreading and to my advisor, Lt Col Roger Boozer, who with significant effort and advice tried to get me to narrow my topic which I continued to expound for the purpose of my own education. And finally, to my three children, Jerry, Cassandra, and Heather, who watched as I surfed (researched?) the Internet and read countless books when I should have been throwing balls, riding bikes, and playing games.

Abstract

This paper examines two issues that are of vital importance to short and long term operations in space and the combat engagement of space borne assets. The first issue analyzed is the question of the establishment of sovereignty and protective zones for free passage in space. This paper will compare international law treaties and other historical analyses to current United States (US) war fighting doctrine on space and propose a United States Air Force (USAF) position on this issue. It will define and discuss the definition for two space protective zones. First and foremost, the immediate safety zone by the space object and secondly, the actual identification area around the object and its orbital track.

The second issue will be intricately more complex on determining the engagement of space assets in both peacetime and wartime. The possible issue of criminal and civil liability will be discussed. The command and control of space assets will be briefly addressed with the second issue as it continues to be an ongoing controversy. Three differing views will be addressed. The concept that will be centered on will be that of integrating space into the air operations cells along with making some form of either a combined control cell at the Joint Forces Commander level or a stand-alone cell.

Chapter 1

INTRODUCTION AND RESEARCH CONCEPT

For we know in part, and we prophesy in part. But when that which is perfect is come, then that which is part shall be done away. When I was a child, I spake as a child, I understood as a child: But when I became a man, I put away childish things.

—1 Corinthians 13: 9-11

“Space, the final frontier” as Captain Kirk of the 1960s television series “Star Trek” states in the beginning of each show, is truly an unexplored arena for not only the US military, but also the world. More and more objects are being placed in space. These items continue to complicate the balance of power throughout the world. Space also represents an area of great importance for three of the primary instruments of power identified in the 1999 National Security Strategy—diplomacy, military, and economic.¹ US Space Doctrine has at best been very nebulous and often lacking in concrete guidance. The warfighter has no definition or understanding of what space is and what actions can be taken in that arena. The ability to understand what to defend and what to attack is the first step in determining who controls what assets in space and how the US can engage assets of belligerents that threaten US national security. Finally, understanding the ability to command and control assets and utilize them in an effective manner is essential to the modern battlefield.

In this paper, I propose where space begins, two protective zones associated with space objects and a basic view of engagement options. These concepts are gleaned from research into international law, history, and policy/doctrine of the nation. Armed with this basic proposal, I then look at the three ways in which the space force can operate and be controlled in the modern battlefield. I conclude with the concept of merging the space force into the existing air operation center structures with space representatives in the appropriate cells and a space control center just like the Joint Communications Control Center (JCCC) at the Joint Forces Commander (JFC) level.

Chapter 2

TREATIES /LAWS AND ESTABLISHMENT OF PROTECTIVE ZONES

As man steps into the void of outer space, he will depend for his survival not only on his amazing technology, but also on this other gift which is not less precious: the rule of law among nations.

—Arthur Goldberg

From the earliest records of history, man made alliances and treaties for survival and to better their interests. As we expand into space, the same requirement to form alliances and make treaties emerges. Paramount to space utilization by many will be the treaties, definition of space, and the associated uses to include offensive and defensive space capabilities. This beginning starts with international law and the United Nations (UN).

Treaties And Law Associated With Space

The genesis of manmade objects as well as man in space has led to the development of international space law. The utopian view of the UN set the framework for many of these international treaties dealing with space. Four basic treaties developed under the auspices of the UN form the bulwark for the international legal regime for space. The US government and military promulgate policy and doctrine by instituting doctrine dealing with space at both the joint and service levels. The fundamental backbone for these treaties and policy lie in the history of sovereignty, basic principles of international law, and the time honored traditions of the laws of the sea. There are four major space

treaties, plus the UN Charter, and various arms control treaties, both bilateral and multi-lateral, that directly effect military space operations.

Outer Space Treaty, The Primary Space Treaty

The “Treaty On Principles Governing The Activities Of States In The Exploration And Use Of Outer Space, Including The Moon And Other Celestial Bodies” is often referred to as the Outer Space Treaty (OST) and is the primary space treaty.² The 1967 OST is what most space requirements are weighed against. Appendix A contains the treaty in total, which is delineated in 17 Articles. The treaty’s introduction eloquently states:

“Inspired by the great prospects opening up before mankind as a result of man’s entry into outer space, Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes, Believing that the exploration and use of outer space should be carried on for the benefit of all peoples irrespective of the degree of their economic or scientific development, desiring to contribute to broad international co-operation in the scientific as well as the legal aspects of the exploration and use of outer space for peaceful purposes, Believing that such co-operation will contribute to the development of mutual understanding and to the strengthening of friendly relations between States and peoples,...”.³

The OST sees the world community as a group of nations able to exploit space in a peaceful way to ensure no one nation could dominate space for its own use, nor would nuclear weapons be put in space. Currently to date, 96 nations have ratified the treaty. The UN has worked hard to prevent the militarization of outer space and to ensure the peaceful access to space by all nations.

Discussion Of Other Associated Treaties And Policies

Treaties and policies on space have been worked on since the 1950s. From the Eisenhower administration to the Clinton administration, there has always been a US

administration policy on space.⁴ I anticipate that the new Bush Administration will continue and amplify the developing policy on space. An excellent summation of these policies, extracted from the Army text, can be found in Appendix B. One factor that was present when all these policies were built, was the bipolar world of the cold war.

Arms Control and Associated Treaties: The limited test ban treaty of 1963 prohibited the nations that ratified the treaty from testing nuclear weapons in outer space.⁵ So far China and France have not signed this treaty; however, the old super powers have obeyed this treaty since its inception. A newer variant of this treaty is the Comprehensive Test Ban Treaty (Appendix G), which has not been ratified by Russia, USA, India, and Pakistan that would prohibit the testing of nuclear weapons in all environments.⁶

An extremely controversial treaty, the Anti-Ballistic Missile (ABM) Treaty of 1972, with its 1974 amendment, limits ballistic missile development and defense.⁷ It is a bilateral treaty originally between the US and Union of Soviet Socialist Republics (USSR), with the break-up of the USSR, a legal issue arises of whether the treaty is still viable. The Clinton Administration, in 1993, coordinated a Memorandum of Agreement (MOA) with Russia on this treaty; however, the MOA was never ratified by the US congress. In 1997 and 1999 President Clinton again agreed with Russia to maintain this treaty. An additional note is that only four of the previous Russian republics are on the MOA.⁸ The Rumsfeld commission in 1998, in conjunction with the heritage foundation, determined that the ABM treaty of 1972 was no longer valid.⁹ The treaty is only being followed currently due to political aims.¹⁰ Many papers have been written discussing the pros and cons of this treaty and the citations to one paper is contained in the footnotes.¹¹

Suffice it to say that reasonable people will continue to disagree on the legitimacy of the ABM treaty. The validity of the treaty is not an issue at this point in time as the technology for an adequate ballistic defense is still being developed. In any event, Article XV of the ABM treaty allows either party, on six months notice, to terminate the treaty. Article XV reads as follows:

“Article XV

1. This Treaty shall be of unlimited duration.

2. Each Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests. It shall give notice of its decision to the other Party six months prior to withdrawal from the Treaty. Such notice shall include a statement of the extraordinary events the notifying Party regards as having jeopardized its supreme interests.”¹²

Liability for space assets and associated damage: The 1972 Convention on International Liability for Damage caused by Space Objects has only been used one time.¹³ The damage caused by a Soviet COSMO 954, a nuclear powered satellite that fell on Canadian soil in January 24, 1978, was the subject of a claim by the Canadian Government. The Soviets paid Canada restitution for the damage based upon this convention.¹⁴

Rescue Agreement: The Agreement on the Rescue and Return of Astronauts, which was ratified and signed in 1968, is fairly straightforward.¹⁵ The foundation of this agreement was from Article V of the OST (See Appendix A).¹⁶ The basic concept is to facilitate not only the rescue of astronauts, but also their immediate return to their own nation.

Registration of Space Objects: The UN passed a convention in 1974 requiring all nations putting objects in space to register these objects with the UN and provide fundamental information as to the orbit, mission, launching country, and location.

PDD/NSC 49 and Department of Defense Policy Memorandum

In September 1996, the Clinton Administration issued a National Space Policy (NSP) and on July 9, 1999, the administration released a DoD Defense Space Policy.¹⁷ These documents provide the direction of the American space program. They clearly delineate the goals of the US space program which include:

1. Enhancing the knowledge of the earth, the solar system, and the universe through exploration (human & robotic).
2. Strengthening and maintaining the security of the US.
3. Enhancing economic standing along with the nation's scientific and technical capabilities.
4. Recommends that state, local, and private organization invest in space technologies.
5. Promotes international cooperation to further the nation's domestic, national security, and foreign policies.

The NSP also provides specific guidelines for civil space, national security, commercial space, and inter-sector space.

The NSP states that the US will conduct space activities to support national security and that the Office of the Secretary of Defense (OSD) and the Director of Central Intelligence (DCI) are the lead action organizations for this specific interest area. The overall objective is to improve the US's ability to support worldwide military operations, monitor an adversary's intentions, and monitor strategic arms treaty agreements. The NSP directs the OSD and the DCI to coordinate all defense and intelligence space activities. Recently renewed direction emphasized that the space program should provide

support to the US's inherent right of self-defense and our defense commitments to allies and friends. The NSP stresses that the space program should continue to support the following activities:

1. Deter, warn, and when possible defend against enemy attack
2. Assure enemy forces cannot prevent our use of the space environment
3. Destroy, if possible, space systems used by enemies against US interests
4. Enhance space support to US and allied military operations
5. Enable the US to perform both military and intelligence space activities
6. Ensure US's ability to satisfy intelligence requirements at all times
7. Ensure support is provided to implement national policy, which includes the intelligence and geospatial community, military authorities, unified commands, and their individual service components.

The NSP directs the Department of Defense to ensure that the US space program is capable of executing four main areas of space support. These areas are space control, force application, force enhancement, and space support. Each military service space doctrine reflects these four main areas of space support.¹⁸

Air Force Doctrine Document 2-2

Since 1959, the USAF has addressed space in its overall Air Force Doctrine Document (AFDD).¹⁹ The AFDD addresses principles and practices for space operations. The AFDD states "Aerospace power is the use of lethal and non-lethal means by aerospace forces to achieve strategic, operational, and/or tactical objectives." The AFDD addresses the importance of integrating Air and Space. The AFDD claims that space and land forces compliment each other. When used properly, space forces can be an overall force multiplier. Central to the AFDD Space Doctrine is the belief that many of the military functions currently done by land, sea, and air forces may be done from,

through, or in space. The AFDD focuses on four specific types of space operations that were stated in the NSP 42-2

Space control is defined in the AFDD as what is done to achieve and maintain space superiority. Counter-space is the overall Air Force mission that is conducted by all military forces to include land, sea, air, space and special operations forces in both offensive and defensive operations. Offensive space control includes using military means to achieve five major purposes: (1) Deception; (2) Disruption; (3) Denial; (4) Degradation; and (5) Destruction of space assets or capabilities.²⁰ Defensive counter-space operations aim to reduce the effectiveness of an enemy's counter-space operations. They also ensure the ability to use military space forces.

Force application consists of attacking targets with space-based weapons. Currently there are no space-based weapons operating in space; however, with the emergence of the importance of the space environment, technology and national policy may change to include space-based weapons. It is interesting to note that the USSR had an active research program to place an anti-satellite system in space; however, it disappeared with the demise of the USSR.

Force Enhancement consists of specific types of operations conducted in space with the overall objective of enabling or enhancing support to land, sea, and air forces. Examples of force enhancement include: (1) Navigation; (2) Communications; (3) Reconnaissance; (4) Surveillance; and (5) Missile Warning and Detection.²¹

The fourth and final type of space operation is Space Support. Space support includes that ability of land, sea, and aerospace forces to reconstitute certain elements of a military space system or replacing the capability of the system.²² Examples of space

support include – (1) Replacing a broken satellite; and (2) Fixing broken systems. Elements within this type of operation include spacelift and satellite operations.

The AFDD states there are several useful attributes of space power. They include global coverage, flexibility, economy, effectiveness, and robustness.

1. Global Coverage: Space-based systems enable the US to be anywhere at a moment's notice. Satellite operations of today provide worldwide coverage and access to locations denied to land, sea, and air forces. This capability permits the US forces to gain information upon which to deter, prevent, or compel an enemy in specific situations.
2. Flexibility: Space-based systems provide the capability to meet information requirements in a timely, accurate, and reliable manner. Space assets can often be redirected to support operations worldwide.
3. Economy: In many cases it is cheaper to perform some functions from space. It has been proven that global communications, global weather forecasting, and navigation are functions where it most economically done from space-borne assets.
4. Effectiveness: "Space allows the simultaneous employment of both dominant maneuver and precision engagement operational concepts by either enhancing terrestrial operations or providing an environment for independent employment of forces."²³
5. Robustness: In many cases functions performed by land, sea, and air forces can also be done from space borne assets. This provides needed redundancy and complicates attempts to neutralize specific US military capabilities.

Finally, the AFDD stresses that space forces can contribute at all levels of military activity and conflict from peacetime to war.²⁴

International Law Defining The Six Principles Of States Right To Execute Jurisdiction.

International Law recognizes six basic principles when it comes to executing jurisdiction over people or activities. These core international law jurisdictional principles are depicted in table one.²⁵

Table 1. Jurisdictional Principles

Jurisdictional Principle	Definition
Territorial Principle	A state may exercise jurisdiction to regulate conduct of its nationals or foreign nationals within its territorial boundaries.
Nationality Principle	A state may regulate the conduct of its own nationals wherever they may be.
Protective Principle	A state may regulate conduct wherever and by whomever committed which threatens important state interests, such as its security and the integrity of its governmental functions.
Universality Principle	A state may exercise jurisdiction with respect to certain specific, universally condemned conduct, principally piracy, even when committed out-side of its territory by foreign nationals and without regard to the connection of the conduct with that state.
Floating Territorial Principle	A state may exercise jurisdiction over aircraft or vessels of its registry, which have been generally treated as part of the territory of the flag state, or as possessing its nationality.
Passive Personality Principle	A state may exercise jurisdiction over offenses wherever committed on the basis that the victims are its nationals.

Source: Restatement of the Law (Second), Foreign Relations Law of the United States, Sections 17,18, 30, 31, 33, and 34 (1965)

The importance of these principles cannot be overstated. It must be noted that most nations readily accept the territorial principle while the passive personality principle is not as agreed upon as nations tend to let actions outside their borders to run their course if they appear to have a reasonable basis. Treaty law utilizes these principles in defining the obligation to exercise a nation's jurisdiction. Even with that said, it is independent to each nation to exercise the appropriate jurisdiction from their given legal system. And an addition basis for executing jurisdiction is called "humanitarian intervention". This has

been recently a theory for discussion, although it may violate the UN Charter and has no basis in international law. This theory has been used by the Clinton Administration to justify intervention in Yugoslavia, Iraq and elsewhere and could be utilized in the future to use space assets to intervene in earthly disputes.²⁶

Maritime Law Governing Exiting Sea Lanes And Boundaries

Maritime laws often have a direct effect on the relationships of nation states. The US ratified numerous treaties in the 1960s concerning operations on the high seas and territorial zones that were negotiated in the late 1950s. The following excerpt is from Encarta Reference 2001 and sums up newest Sea Convention of 1982:

“Some aspects of ocean law affect relationships among nations. Issues of neutrality and belligerency that occur in wartime are dealt with in international law. The United Nations Convention on the Law of the Sea, adopted in 1982 but not yet in force, addresses ocean law issues, including rights of navigation and overflight, fishing, marine scientific research, seabed minerals development, and marine environmental protection. It allows each coastal nation to exercise sovereignty over a territorial sea up to 12 nautical miles (22 km/14 mi) wide and jurisdiction over resources, scientific research, and environmental protection in an exclusive economic zone up to 200 nautical miles (370 km/230 mi) offshore; beyond this zone, seabed minerals development will be regulated by an international body. The U.S. has not signed the accord because it objects to the system for minerals development in the international seabed, but it has generally endorsed all other provisions of the convention.”²⁷

The sea is very closely aligned to space and maritime concepts are often used as the baseline for defining rules for space objects.

US National Law Dealing With Sovereignty

I know no safe repository of the ultimate powers of the society but the people themselves, and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them but to inform their discretion.

Thomas Jefferson

The US with its unique constitution views issues of sovereignty as a right of the people to choose the course. The US accepts the rights of people to be ruled.

“Every government has a source of its sovereignty or authority, and most of the political structures of the U.S. government apply the doctrine of popular sovereignty. In previous centuries the source of sovereignty in some countries was the monarchy the divine right of kings to rule. Americans place the source of authority in the people who, in a democratic society, reign. In this idea the citizens collectively represent the nation's authority. They then express that authority individually by voting to elect leaders to represent them in government.”²⁸

Issue Of Establishing Protective Zones

The development of rapidly maneuverable space objects brings to the fore the problem of insuring the necessary conditions for the safe and effective functioning of space objects, especially those carrying a crew on board. For this purpose, the state involved may establish around them zones of security within the bonds of which all the activities of space objects finding themselves in such zones must proceed in keeping with previously agreed stipulations.

—V. D. Bordunov

History has demonstrated the requirement for defining not only one's territories, but also the area around a nation's assets, people, or land. The Marine Song is based on the US's show of force throughout the world to protect our interests and to establish areas of protection for not only the citizen but also the economy. This concept carries to the modern day for the requirement to define zones and engagement criteria in space. From the dawn of time, nations and militaries have defined zones as identification zones, demilitarized zones, self-defense zones or perimeters, security zones, safety zones, kill zones, warning zones, exclusion zones, protective area, and other terms denoting areas of sovereignty or advancing the right of self-defense.

Historical Concept And Precedent For Zones

The world has seen the establishment of all types of zones dealing with the surface of the earth, the sea, and also the air. Historically, zones could be traced back to man made features like moats and walls and to geographical features like rivers, mountains, and seas. Technology has now allowed mankind to break from the bonds of earth and soar skyward to space. Much like the exploration and travel on the sea, space has introduced a unique dilemma of objects moving beyond the close proximity to a nation's natural border and traversing near other objects in the same media from another nation. Moreover, the international community has accepted a nation creating protective zones whenever applicable as long as the zones did not unduly interfere or obstruct the actions of another nation. This acceptance was based on the fact that the zone was associated with an asset of the country and not permanent to the area, for example a ship on the high seas.

World War Zones And Concepts. Throughout time, wars and conflicts have provided an impetus to establish zones. Precedent for the US setting up zones was displayed in the 33 defensive zones the US defined in World War I.²⁹ World War II saw the US implement 17 maritime control areas which were similar to protective zones.³⁰ An example of a league of states declaring a protective zone was displayed in 1939 when the 21 American Republics declared a neutral zone, which extended past the tip of South America to 1200 miles off the coast of Florida.³¹

Zones Since The World Wars:

A major zone set-up today is the "No-Fly Zone" over Iraq.³² After the Gulf war, the coalition forces created so-called "No-Fly Zones" over Northern and Southern Iraq. These areas are off-limits to Iraqi aircraft. The zones were created to protect the Kurds in

the North and primarily the Shia Muslim people of the South. The zones were a clear message to the Iraqi leader, Saddam Hussein, and also the people of Iraq for continuing to accept his leadership.

Maritime Zones And Air Defense Zones: The 1958 Geneva convention, dealing with the Continental Shelf, clearly defines a safety zone of up to 500 meters which can be established around installations on continental shelves as long as adequate notice of the safety zone is given and it does not hamper maritime navigation.³³

During the cold war, both the USSR and the US established numerous warning zones during nuclear testing and other major exercises. The zones were for warning other vessels of the military's use of this area.³⁴ These zones did not limit access of vessels or aircraft to the area but only warned them of the potential activities.

Established in the war years, and later accepted by international law, is the concept of air defense identification zones (ADIZ). For example, civil aircraft entering through the coastal ADIZ are required to report to US civil aviation "not less than one hour before and not more than two hours average direct cruising distance from the United States" per US regulations, CFR 99.17, 19, 21, and 23 along with their associated references.³⁵ These regulations do not pertain to military aircraft, but to enter US airspace, without inducing the scrambling of fighter interceptors, these rules must be complied with and followed. The US does not claim sovereignty over these zones per se, but does closely monitor and request information of all objects entering the zone. Passage over US air space does require full compliance to the guidelines of the zones.³⁶

Current Concept Of Zones Around Objects In Space

The international community through the acceptance of maritime and historical example has conceptually allowed protective zones around a nation's space assets. This thought could be said to be relevant to space via the existing treaties and conventions. However, the existing rules are rather vague and hinge on "peaceful use" and stipulate the penalty of damaging another nation's assets through the Liability convention. The fact that the US did not object to Sputnik flying over the nation³⁷, nor did the USSR object to US satellites flying over their nation, clearly displays the acceptance that the "space" above a nation is not claimed by the nation beyond the level that air breathing craft can go.

The concept of a safety zone around objects seems to be acceptable in the international community. But no real guidelines appear to exist for what makes an item a space asset. The definition of space depends on the criteria used. In conjunction with Carl Christol's works³⁸, I propose that space begins where "air" ends. Air extends to roughly 110-kilometers (km) above the earth surface. Cristol looks at and reviews many different national viewpoints on space from which I draw this 110-km concept. It is important for a census to exist where space begins as entering the airspace of another nation could be considered an act of war or at least a trespass of the nation's sovereignty. This trespass could lead to destruction of a space borne asset or possibly conflict and war.

Maritime Enforcement And Relation To Space

The maritime community is again a good source for an example in space. Both are vast areas without true boundaries except ones made by landmasses. The sea and space both have navigational and communications lines that are better than others that serve the

population of the world. Nations take a variety of actions whenever their prescribed boundaries are encroached upon based on the existing sea convention. In the case of the US or Britain, the existing laws of those sovereignties are utilized.³⁹ This means that since the two countries have the power, they enforce their laws on others that violate them in the open seas or within the defined zones by their sovereign territories. One statement I have repeatedly heard is that a United States Navy (USN) carrier is 4 acres of US sovereign territory no matter where it is located. The international community can judge the actions, but only host nations have the ability to execute jurisdiction over the offenders as well as having the ability to work for release or expungement of the infractions. There are several cases in the past where nations have violated long-standing sea conventions, including the infamous Pueblo incident⁴⁰ and the Gulf of Sidra incident between Libya and the US.⁴¹ The first example is when the North Koreans captured the USS Pueblo on January 23, 1968 while in international waters. One crewman was killed and the others were forced to sign confessions that they were not in international waters. On Dec 23, 1968, the men were released in an agreement, which allowed the US to disavow the confessions. The Gulf of Sidra incident was initiated in 1973 when Libya claimed the Gulf was part of their sovereignty. The US challenged the claim and emphasized the 12-mile rule that was accepted through out the world. In August 1981, a confrontation between two F-14s and 2 SU-22s ended with the downing of the Libyan SU-22s.

The maritime community has always accepted the innocent passage of vessels through zones as long as their intentions were known and contraband was not being transported. The USN has long ensured the right of innocent passage and prevents

unreasonable assertion of sovereignty per the Convention on the Territorial Sea and the Contiguous Zone.⁴² Appendix H contains the complete section of the treaty dealing with the Convention of the Territorial Sea and the Contiguous Zones, which is very concise on all the different aspects that are possible at sea.

These examples can be transposed into space and applied to space usage and the zones being identified in this paper. An object must be identified and intentions understood and then passage will be granted as long as the object does not interfere with the actions of the existing entity in the area.

Free Passage in Space

On many subjects the members of the UN Committee on the Peaceful Uses of Outer Space have now reflected common outlooks

Carl Q. Christol

The UN has clearly stated that space is for the peaceful use of all mankind.⁴³ In order to guarantee a peaceful environment, certain precedence and definition are critical. The concept of peaceful use must be understood and how objects can traverse in peace needs to be defined. The complexity of international law and understanding must be bridged and treaties must pass the reasonability test.

Peacetime Use By All Established By International Law And Treaties

...a treaty that once has been established acquires a life of its own, Consequently, in interpreting it, we must have regard to the exigencies of contemporary life rather than the intentions of those who framed it.

Judge Alvarez

What is peaceful use and is it truly defined? International law varies in its definition of peaceful use. By the OST, peaceful use appears to be one of non-combatant or non-aggressive. This appears to be the term most associated to space by the international community; however, it needs to be noted that peaceful use to the normal layman on the street would mean non-military use. This definition is severely lacking and impractical due to several reasons. The most important is that for all practical purposes peaceful military events are the cornerstone of space exploration. What really needs to be ascertained is whether the space activity is one of military aggression or is it in conjunction with international law and defensive in nature. One important factor that has been lost in the discussion of treaties since the end of the cold war is the fact that the UN does not discount military activities, it only prohibits the threat or use of force to include acts of aggression and war. The charter has always backed the right of a nation state to defend itself from aggression and to fight in self-defense.

The major issues of military use in space can be summed up in five areas. The OST prohibits the placement of nuclear or other weapons of mass destruction in space (see article IV of appendix A).⁴⁴ The OST, also in article IV, prohibits the establishment of bases and military exercises on the moon or on other celestial bodies. This prohibition includes the testing of weaponry at these locations.⁴⁵ The limited test ban treaty prohibits use of outer space for nuclear testing; however, modeling and limited research and development that do not have any long-term effects is accepted under the treaty.⁴⁶ The fourth issue, developing an ABM system was discussed previously. As stated previously, the Harden paper is worthy of review.⁴⁷ The final peace issue is how the UN charter is applicable in space. The OST specifically allows for military personnel in space. It

made the UN Charter part of the legal regime of space.⁴⁸ The UN Charter is a cornerstone of international relations. There are now 189 member states of the UN.⁴⁹ Article 51 of the UN charter is the right of self-defense.⁵⁰ The other article that could be applied to space is article 2(4), which states that:

“All members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state of in any other manner inconsistent with purposes of the United Nations.”⁵¹

The bottom line in peacetime appears to be peaceful use in a non-aggressive fashion. This means that modeling and simulation of restricted actions are acceptable and limited testing of certain concepts can take place as long as long-term environmental damage does not occur and that the tested weaponry is not nuclear or one of mass destruction.

Wartime Considerations And Examples

War is a clash of arms and or wills of men to control areas and, whenever possible, inflict their ways upon others. The UN has defined space as a place of peaceful use.⁵² Nevertheless, all our communications, intelligence, and navigational satellites are enablers for unity of command/effort and control of forces. We also have to consider the use of commercial satellites during war. International treaties restricting the use of these assets against signatory nations. These space-based enablers make it possible to assemble the proper mass at the right point in time to be decisive in battle.⁵³ Just by looking up, one can see that space is the ultimate in high ground.

What categories are Inter-Continental Ballistic Missiles in? Are they space threats as they transverse through space to reach their target? Their multiple re-entry warheads are actually deployed in space, so is that a militarily use of space? Is a space borne weapon or an anti-ballistic missile defense system a violation of the OST and other agreements?

The simple answer to this is: It Depends! Conceptually all treaties between belligerents are suspended at the start of war except for the Geneva Convention of 1949 and its associated amendments. The one hook here is that it is up to a nation to follow existing treaties in war or to determine that they are null and void. The US bases its decision on national security interests.⁵⁴

Proposed USAF Position On Protective Zones And Free Passage

The unresting progress of mankind causes continual change in the weapons; and with that must come a continual change in the manner of fighting.

Alfred Mahan

Historically, it appears that the international community has accepted the rights of a nation to set-up protective zones, but not necessarily declaring sovereignty over areas of the earth, air, and space. Any zones or implied jurisdiction must pass the test of reasonability and are situational dependent. The reasonability concept is not only in the size of the zone, but also the restriction placed upon others entering the zone. A key factor would be, like with sea navigation, no zones could inhibit the rights of another space borne object to traverse a given sector or zone as long as the rights of the nation identifying the zone are not impaired. This is noted in the international framework as innocent passage. The concept of zones can and should be applied to space and should be compatible with international law.

These are two concepts, which this paper proposes for space. First and foremost, the immediate safety zone by the space object and secondly, the actual identification area

around the object such as the space shuttle or the international space station and its orbital track.

The object's safety zone will obviously be dependent on many factors such as size, speed, orbit, and mission. This zone is the zone where no other object can enter without full identification and complete deconfliction of navigational issues. Any object entering this zone would be considered as entering sovereign space and actions from evasion to destruction of the object would be considered and acted upon as needed. This zone would be the most critical to pass the test of reasonability and actions in this zone would be aligned to both the liability convention and to future agreements on space actions. The action of destruction would be aligned to the UN Charter article 51 on self-defense and protection of ones rights.⁵⁵ The right to protect ones assets has always been accepted in the international community, and this right must be put to the test in space as more objects are launched. Self-defense of an object has never been considered aggressive or offensive in nature. By default, space objects are already conducting non-lethal military actions, which I would stipulate is representative of the defense of space borne assets.

With an eye toward the historical use of earth based ADIZs, the same concept of a space zone should be implemented. This zone would be the orbital path and region around the object used to identify objects before they enter the safety zone identified above. A neat concept here is that the zone will appear to move around the earth, following the object, when viewed from the earth. But once in space, an "aggressor" must chase the ADIZ to interfere. I think that can help to show intent, which is a big player with an ADIZ. This zone would require the identification of assets entering this prescribed area. This zone should be aligned with the registration convention for initial

launch. From initial launch, any changes which would make an object enter another's identification zone would need to be deconflicted.

This paper will only put forth the concept that these zones could utilize electronic means to make this identification process, the actual implementation and penalties for violation, unless covered by the liability convention (See Appendix D)⁵⁶ or article 51 of the UN Charter,⁵⁷ will require further study.

Chapter 3

ENGAGING SPACE ASSETS AND THE ASSOCIATED C2

Space is a realm in which many military operations are conducted more efficiently than by terrestrial systems. Military satellites have been operating in space for years, and our accomplishments in DESERT STORM emphasize that space has unquestionably evolved as a military theater of operations.

General Charles A. Horner

Space is a true enabler of combat actions and situational awareness. The ability to maintain our space advantage must never be lost. The intent of this next section is to barely scratch the surface of engagement in space and how the command and control of those assets in space should be handled.

Engaging Space Assets

As we move into the next century, it is imperative that the United States maintain the military superiority essential to our global leadership.

1997 National Military Strategy

In all cases of engagement, the intent of the object being engaged should be determined prior to engagement. Any actions, be they complacent or aggressive, must pass the test of reasonability. Furthermore, existing treaties must be acknowledged before any actions are taken. The UN Charter and the concept of the various jurisdictional principles apply. US citizens are also bound by the 1981 act, which aligned

criminal action aboard spacecraft with the same policy on the sea or land.⁵⁸ The US military members are always bound by the Uniform Code of Military Justice (UCMJ) for actions they initiate, take part in, or are associated with while carrying out their duties even in outer space.⁵⁹

Peacetime Encroachment Responses:

In following the UN charter and the associated treaties, the US would have relatively few courses of action during peacetime encroachment. With that said, article 51 always provides the ability for self-defense.⁶⁰ If the prescribed zones of this paper are established, any object entering the safety zone could be engaged and destroyed under the premise of self-defense and violation of the zone around the object. The other courses of action range from ignoring the incident or public censure through the UN to disrupting the object's activities by jamming or other frequency actions. The most aggressive actions would be to destroy the offending object or damage it to the extent that it would not be a useful asset to its host nation. All actions must pass the test of reasonability.

Wartime Encroachment And/Or Engagement Responses:

Following the UN charter and the associated treaties. The US would have a multitude of choices. Article 51 always provides the ability for self-defense.⁶¹ If the prescribed zones of this paper are established, any object entering the safety zone could be engaged and destroyed under the premise of self-defense and violation of the zone around the object. In time of war, treaties between belligerents are usually null and void; however, many of these space treaties include many nations and may not be void across the spectrum of conflict. Other courses of action are mentioned in the paragraph above.

Control Of US Space Assets

The complexity of future operations also requires that, in addition to operating jointly, our forces have the capability to participate effectively as one element of a unified effort.

JV2020

Commanding and controlling space assets is critical as we venture into the space age. JV2020 repeatedly stresses the importance of information superiority and innovation as the keys to triggering precision engagement, dominant maneuver, focused logistics, and full dimensional protection to obtain full spectrum dominance⁶². Space is a prime enabler to garner success in the core competencies. Several excellent papers have been done addressing this subject. Notably ones by Major Rife—*On Space Power Separatism*,⁶³ Lt Col Miller—*Space Superiority the Joint Way*,⁶⁴ and finally, the recent Rumsfeld Commission Report⁶⁵. All of these papers put forth thoughts on space assets and forces. I propose that using space requires integration of space knowledgeable personnel into the operation centers' critical cells. This means that space is not a stand-alone function or a source to check with but rather an integral part of the warfighters' planning/execution cells, and systems control cells. At the higher levels, space functions could be either integrated into a new Joint Communications and Space Control Cell at the JFC level or be its own control cell.

Peacetime Operations And Monitoring

Currently between United States Space Command (USSPACECOM), the individual services, National Security Agency (NSA), National Imagery and Mapping Agency (NIMA), National Reconnaissance Office (NRO), Defense Information Systems Agency

(DISA), and a host of other agencies many activities are being accomplished for day to day operations. The requirement for economies exists and should be explored for cost savings and removal of overly redundant efforts. We need to change the existing structure. The recent Rumsfeld commissions of 1997 and 2001 have scratched the surface and proposed some changes.⁶⁶

Wartime or MOOTW Control Of US Space Assets

Numerous papers and research on controlling assets in space and who should have the control have been done over the last five years. Major Rife in his article on separatism summed it all up with the fact that the time was not yet right for splitting the force and building an independent force. His work emphasized two hypotheses, which should be met before splitting the force, and neither passed the reasonability tests. He concluded with the AF maintaining stewardship.⁶⁷

“From a practical viewpoint, to assert that *because a unique environment requires a unique expertise, an independent space force is required* demands that one prove at least one of the following hypotheses (preferably both):

1. The requirements for that unique expertise are not being fulfilled within the current framework of organization, *or* the resources of that expertise are not being used properly.
2. Only an *independent* space force can provide a capability that is considered vital to our national defense...”⁶⁸

Both of these hypothesis could be argued either way; however, the bottom line today is that neither one can be solidly proven as essential for national security. I agree with Major Rife that the time is not yet right for a separate force and that the Air Force must prove itself worthy of the stewardship of space.

C2 USSPACECOM, Initial Corporate Thought Pattern—The Space Support Team/Cell: The initial attempt at working with the warfighter by the space arena was to

place space support teams in the Air Operation Center (AOC) or wherever needed. This concept sounds good on the outside, but is fraught with holes. The teams never trained the way we fight and also failed to be integrated into the JFC's team and into any other team for that matter. They were late to the fight and not able to coordinate any significant effort. Without any Joint Forces Air, Sea, or Land Component Commander pulling and supporting them, they were ineffective. Although many of the textbooks, like the current Air Command and Staff College (ACSC) textbook on Joint Forces, still teach this concept,⁶⁹ it has, for the most part, been shelved.

C2 Of Space Assets By A Separate Joint Forces Space Component Commander (JFSCC): There is much debate and merit associated with building a joint space operations center (JSOC); however, it appears to be founded on the concept of uniqueness and not sound doctrine or principle. In the paper *Space Superiority The Joint Way*, the idea of a space operations center and a JFSCC are addressed.⁷⁰ However, the missing link here is in how Lt Col Miller initially does a great selling job using the 1/5 of the asset equation to explain how the JFACC and the Joint AOC (JAOC) are the wrong places for space.⁷¹ Then in using the JAOC as an analogy for how to make the JSOC work, he explains how any airman could easily see how assets for space come from many different sources.⁷² This begs the question then that if the JSOC assets are air/space assets from numerous services and the JAOC assets are also from numerous services, have not we just redefined the JFACC mission as the one with the air/space assets, but under a JFSCC? Understandably, the issue of air verses space could be argued, but space is an enabler and systems ride on its assets just like with communications and there is not

a Joint Forces Communications Component Commander (JFCCC), but rather a system control cell at the JAOC level and a JCCC at the JFC level.

C2 of Space Assets By the JFACC And AOC Operations: A merger of the two ideas above has merit. There is a requirement for space smart folks to be integrated into the JAOCs. Additionally, JFCs like to have organic smarts when they deploy so some form of space cell to provide that capability would seem prudent. From the ACSC course, Joint Forces, an in-class briefing had space personnel integrated into the JAOC.⁷³ The concept was to put space trained personnel into the individual cells of the existing JAOC under the JFACC. The cells identified were combat plans, combat operations, and intelligence. This provides the expertise to primary cells of the JAOC and also the expertise to reachback and asks the right questions of the 14th AF. However, a shortfall of this concept from my perspective, is the lack of a position in the systems control cell and JCCC to coordinate satellite and other associated access and timing issues. If a position was included in the systems control cell, it would provide the coverage in that area too.

Proposed Position On C2 of Space Assets And Engaging Space Assets

If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle.

Sun Tzu

The proposed solution is two-fold. There is a need to build a space-trained force; however, there is not a need to build a complete new hierarchy in the warfighting arena. I would propose that core space knowledge could be built within the confines of

USSPACECOM and Air Force Space Command (AFSPACECOM). The answer to the issue of controlling assets in a contingency is to integrate with the existing cells in the JAOC. This would also include positioning a space coordination element similar to the JCCC, a Joint Space Coordination Center (JSCC) per se, at the JFC level to handle higher-level space issue across the joint community. Initial recommendations would be to place space support in Combat Operations, Combat Plans and Intelligence, and the System Control Cell. The JFACC would remain the single point of contact for space and air issues in the area of operations.

Chapter 4

CONCLUSION

Critical turning points in the histories of nations are difficult to recognize at the time. Usually they become clear only in retrospect. Nonetheless the United States may well be at such a turning point today. We face a decision that we have been deferring for much too long. We can defer it no longer. We must decide whether we intend to remain the strongest nation in the world. The alternative is to let ourselves slip into inferiority, into a position of weakness in a harsh world where principles unsupported by power are victimized, and to become a nation with more of a past than a future. I reject that alternative.

—Harold Brown

The utilization of space to protect the national interests of the US is too important to be left to the whims of the UN. While the UN, through various treaties, has provided the framework in which the nations of the world may interact in the use of the space environment, my paper has attempted to focus on the use of space by the US military in furtherance of our national interests.

This paper specifically explored two space issues of vital national importance. Through historical examples, current international law, and current doctrine, a proposed concept of establishing sovereignty and a two-fold concept of protective zones was devised and a definition for space verses air was introduced. The two-prong concept of protective zones was defined as the immediate safety zone by the space object and secondly, the actual identification area around the object. The uniqueness of this concept

is how the zones move with the objects and would even include an orbital path around the earth. The concept of space starting were air ends was addressed and defined as approximately 110 kilometers. From that basis, the paper then examined how assets should be engaged and controlled in conjunction with international and US laws and policies. The ideas brought forth article 51 of the UN charter, which allows for self-defense, even in space. Through the historical example of protective zones, combined with the UN charter, the path for protection of assets in space was laid. The final item discussed was the command and control of space assets. The recommended course of action was to integrate space operations into the JAOC key cells and to build a JSCC similar to how the JCCC is operated at the JFC level. Space forces, like communications forces, are an enabler, and carry the information for the fight; they do not at this time do the fight, so actually establishing a new function like a JFACC was dismissed. This last issue on control of space needs to be addressed and resolved by the services so we can press ahead in a joint direction in both peace and war with our space doctrine in concert with our national interests.

APPENDIX A

APPENDIX A: TREATY ON PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE EXPLORATION AND USE OF OUTER SPACE, INCLUDING THE MOON AND OTHER CELESTIAL BODIES

Signed at Washington, London, Moscow, January 27, 1967

Ratification advised by U.S. Senate April 25, 1967

Ratified by U.S. President May 24, 1967

U.S. ratification deposited at Washington, London, and Moscow October 10, 1967

Proclaimed by U.S. President October 10, 1967

Entered into force October 10, 1967

The States Parties to this Treaty,

Inspired by the great prospects opening up before mankind as a result of mans entry into outer space,

Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes,

Believing that the exploration and use of outer space should be carried on for the benefit of all peoples irrespective of the degree of their economic or scientific development,

Desiring to contribute to broad international co-operation in the scientific as well as the legal aspects of the exploration and use of outer space for peaceful purposes,

Believing that such co-operation will contribute to the development of mutual understanding and to the strengthening of friendly relations between States and peoples,

Recalling resolution 1962 (XVIII), entitled "Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space," which was adopted unanimously by the United Nations General Assembly on 13 December 1963,

Recalling resolution 1884 (XVIII), calling upon States to refrain from placing in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction or from installing such weapons on celestial bodies, which was adopted unanimously by the United Nations General Assembly on 17 October 1963,

Taking account of United Nations General Assembly resolution 110 (II) of 3 November 1947, which condemned propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace or act of aggression, and considering that the aforementioned resolution is applicable to outer space,

Convinced that a Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, will further the Purposes and Principles of the Charter of the United Nations,

Have agreed on the following:

Article I

The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of

equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.

There shall be freedom of scientific investigation in outer space, including the moon and other celestial bodies, and States shall facilitate and encourage international co-operation in such investigation.

Article II

Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

Article III

States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding.

Article IV

States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.

The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers

on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited.

Article V

States Parties to the Treaty shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas. When astronauts make such a landing, they shall be safely and promptly returned to the State of registry of their space vehicle.

In carrying on activities in outer space and on celestial bodies, the astronauts of one State Party shall render all possible assistance to the astronauts of other States Parties.

States Parties to the Treaty shall immediately inform the other States Parties to the Treaty or the Secretary-General of the United Nations of any phenomena they discover in outer space, including the Moon and other celestial bodies, which could constitute a danger to the life or health of astronauts.

Article VI

States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing

supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the Moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization.

Article VII

Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the Moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space, including the Moon and other celestial bodies.

Article VIII

A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, including objects landed or constructed on a celestial body, and of their component parts, is not affected by their presence in outer space or on a celestial body or by their return to the Earth. Such objects or component parts found beyond the limits of the State Party to the Treaty on whose registry they are carried shall be returned to that State Party, which shall, upon request, furnish identifying data prior to their return.

Article IX

In the exploration and use of outer space, including the Moon and other celestial bodies, States Parties to the Treaty shall be guided by the principle of co-operation and mutual assistance and shall conduct all their activities in outer space, including the Moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty. States Parties to the Treaty shall pursue studies of outer space, including the Moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose. If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State Party to the Treaty which has reason to believe that an activity or experiment planned by another State Party in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, may request consultation concerning the activity or experiment.

Article X

In order to promote international co-operation in the exploration and use of outer space, including the Moon and other celestial bodies, in conformity with the purposes of this Treaty, the States Parties to the Treaty shall consider on a basis of equality any

requests by other States Parties to the Treaty to be afforded an opportunity to observe the flight of space objects launched by those States.

The nature of such an opportunity for observation and the conditions under which it could be afforded shall be determined by agreement between the States concerned.

Article XI

In order to promote international co-operation in the peaceful exploration and use of outer space, States Parties to the Treaty conducting activities in outer space, including the Moon and other celestial bodies, agree to inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities. On receiving the said information, the Secretary-General of the United Nations should be prepared to disseminate it immediately and effectively.

Article XII

All stations, installations, equipment and space vehicles on the Moon and other celestial bodies shall be open to representatives of other States Parties to the Treaty on a basis of reciprocity. Such representatives shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited.

Article XIII

The provisions of this Treaty shall apply to the activities of States Parties to the Treaty in the exploration and use of outer space, including the Moon and other celestial bodies, whether such activities are carried on by a single State Party to the Treaty or

jointly with other States, including cases where they are carried on within the framework of international intergovernmental organizations.

Any practical questions arising in connection with activities carried on by international inter-governmental organizations in the exploration and use of outer space, including the Moon and other celestial bodies, shall be resolved by the States Parties to the Treaty either with the appropriate international organization or with one or more States members of that international organization, which are Parties to this Treaty.

Article XIV

1. This Treaty shall be open to all States for signature. Any State which does not sign this Treaty before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United States of America, the United Kingdom of Great Britain and Northern Ireland and the Union of Soviet Socialist Republics, which are hereby designated the Depositary Governments.

3. This Treaty shall enter into force upon the deposit of instruments of ratification by five Governments including the Governments designated as Depositary Governments under this Treaty.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Treaty, the date of its entry into force and other notices.

6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article XV

Any State Party to the Treaty may propose amendments to this Treaty. Amendments shall enter into force for each State Party to the Treaty accepting the amendments upon their acceptance by a majority of the States Parties to the Treaty and thereafter for each remaining State Party to the Treaty on the date of acceptance by it.

Article XVI

Any State Party to the Treaty may give notice of its withdrawal from the Treaty one year after its entry into force by written notification to the Depositary Governments. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XVII

This Treaty, of which the English, Russian, French, Spanish and Chinese texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Treaty.

DONE in triplicate, at the cities of Washington, London, and Moscow, this twenty-seventh day of January one thousand nine hundred sixty-seven.

APPENDIX B

APPENDIX B: US Presidential Policy on Space from D. Eisenhower to G. Bush⁷⁴

3-2 U.S. Presidential Administrations

Eisenhower Administration	a. The Eisenhower administration's approach to implementing the new space policy was conservative, cautious, and constrained. Early DOD and NASA plans for advanced manned space flight programs were repeatedly disapproved. Instead, the administration preferred to concentrate on unmanned, largely scientific missions and to proceed with those missions at a measured pace. Between 1958 and 1961, the U.S. launched numerous small satellites to include communications, weather, reconnaissance and scientific payloads.
Kennedy Administration	b. The first major space goal was pronounced by President Kennedy on 25 March 1961. The Kennedy statement was made during a period of intense national introspection. Although Yuri Gagarin, the first Soviet in space, spent just 89 minutes in orbit, his accomplishment electrified the world and caused the United States to question its scientific and engineering skills and its entire educational system. The American response - to land a man on the moon and return him safely to earth - bounded U.S. space goals for the remainder of the decade. Prestige and international leadership were clearly the main objective of the Kennedy space program. However, the generous funding that accompanied the Apollo program had important residual benefits as well. It permitted the buildup of U.S. space technology and the establishment of an across the board space capability to include planetary exploration, scientific endeavors, commercial applications, and military support systems.
Nixon Administration	c. As the decade of the 60's drew to a close, a combination of factors, including domestic unrest, an unpopular foreign war, and inflationary pressures, forced the nation to reassess the relative priority of the space program as compared to other national needs. President Nixon announced his space policy statement in March 1970. It was a carefully considered and carefully worded statement that was clearly aware of political realities and the mood of Congress and the public. Although spectacular lunar and planetary voyages continued until 1975, largely as a result of budgetary decisions made during the mid-1960's, it was clear that the Nixon administration considered the space program of less priority and would not support increased investment for the initiation of large, new space projects. It viewed space as a medium for exploiting and extending the technological and scientific gains that had already been realized. The emphasis was on practical space applications to include worldwide communications and meteorological systems, earth resource surveys, and scientific stellar and solar observations. Military surveillance satellites and navigation systems received increased emphasis as well. The only new space initiative undertaken was the space shuttle. The 1972 decision to proceed with this program was made for three principal reasons: a reusable vehicle promised to drastically reduce operational launch costs; the project would employ up to 40,000 aerospace workers; and DOD expressed an interest in the concept. When problems associated with the highly technical program began to arise it resulted in schedule slippage, cost overruns, and impacted adversely on already austere scientific and application programs. It soon became apparent that no Americans would be launched into space for the remainder of the decade, costing the space program much of its early momentum.

3-3 Carter Administration

Introduction	a. Early in the Carter administration, studies were conducted that addressed the apparent fragmentation and possible redundancy in the nation's space effort. These studies recommended that President Carter issue two Presidential Directives (PD). PD-37 focused on national space policy and PD-42 addressed civil space policy.
PD-37	b. PD-37 reaffirmed the basic policy principles contained in the National Aeronautics and Space Act of 1958, and for the first time, spelled out in coherent fashion the broad objectives of the U.S. space program and the specific guidelines governing civil and national security space activities. PD-37 was important from a military perspective because it contained the initial, though, tentative, indications that a shift was occurring in the national security establishment's views on space. Traditionally, they had viewed space as a force enhancer, that is, as a medium in which to deploy systems to increase the effectiveness of land, sea, and air forces. Although the focus of the Carter administration space policy was clearly on restricting the weaponization of space, PD-37 reflected an appreciation of the importance of space systems to national survival, a recognition of the Soviet threat to those systems, and a willingness to push ahead with development of an ASAT capability in the absence of verifiable and comprehensive international agreements restricting such systems. In other words, space was beginning to be viewed as a potential warfighting medium. Carter was the first President to mention spy satellite capabilities in public speeches. PD-37 basically addressed the space program in its totality.
PD-42	c. PD-42 was directed exclusively at the civil space community and was designed to set the direction for U.S. efforts over the next decade. However, it was devoid of any long-term space goals, stating instead that the nation would pursue a balanced evolutionary strategy of space applications, space science, and exploration activities. The absence of a more visionary policy reflected clearly the continuing developmental problems with the shuttle and the resulting commitment of larger than expected resources.

3-4 Reagan Administration

Introduction	a. President Reagan's initial national space policy was National Security Decision Directive 42, publicly announced on 4 July 1982. It superseded all previous presidential space policy directives.
NSDD-42	b. NSDD-42 reaffirmed a national commitment to the exploration and use of space in support of the national well being. It established the basic goals of U.S. space policy as strengthening U.S. security, maintaining U.S. space leadership, obtaining economic and scientific benefits through space exploitation, expanding the investment and involvement of the U.S. private sector in civil space related activities, promoting international cooperative activities in the national interest, and cooperating with other nations in maintaining the freedom of space for activities that enhance the security and welfare of the entire human race. NSDD-42 outlined broad principles that were to serve as the basis for the future U.S. space program. For the most part, these principles have characterized, historically, the conduct of U.S. space activities.
NSDD-42 Basic Commitments	c. These principles include five basic commitments: 1. To the exploration and use of space by all nations for peaceful purposes to permit activities in pursuit of national security goals. 2. To conduct international cooperative space-related activities that achieve scientific, political, economic, or national security benefits for the United States. 3. To pursue activities in space in support of the United States' inherent right of self-defense. 4. To develop Space Transportation System (STS) capabilities and capacities to meet appropriate national needs and to make the STS available to commercial and governmental users, both domestic and foreign. This included the recognition that the STS was to be the primary space launch system for national security and civil government missions. 5. To continue to study space arms control options and to consider verifiable and equitable arms control measures that would ban, or otherwise limit, testing, and deployment of specific weapons provided those measures were compatible with

U.S. national security. Other broad principles included a rejection of national claims to sovereignty over any portion of space and celestial bodies as well as a rejection of any limitations on the fundamental right to acquire data from space. There was a recognition that space systems are national property and have the right to pass through and operate in space without interference, and that the United States would view purposeful interference as an infringement on its sovereign rights.

NSDD-42 Guidance	Policy	d. In addition to outlining the basic goals and broad principles of the U.S. space program, NSDD-42 provided specific policy guidance. The following is some specific guidance as it applied to military activities. The United States would conduct activities in space deemed necessary to national security. These activities would support such functions as command and control, communication, navigation, environmental monitoring, warning, surveillance, and self-defense. The United States would pursue survivability and endurance of space systems, including all system elements. Deficiencies were to be identified and eliminated. Development of an anti-satellite capability was to proceed with a goal of operational deployment. Under attack warning the United States would develop and maintain an integrated attack warning, notification, verification, and contingency reaction capability that could detect and react effectively to threats to U.S. space systems. The policy also allowed development of special purpose launch capabilities as required to meet national security needs. The STS was to be made fully operational and cost effective in providing routine access to space. Enhancement of STS operational capability, upper stages, and methods of deploying and retrieving payloads was to be pursued as national requirements were defined.
NSDD-85		d. NSDD 85, 25 March 1983, clearly reflects the transition to a space warfighting perspective. President Reagan stated that the long-term goal of the United States was the elimination of the threat presently posed by nuclear ballistic missiles. Though specific systems are not identified, it is recognized generally that space based systems will play a significant role in this vision in the future.

3-4 Reagan Administration cont'd

PD	Dated	3	e. On January 5, 1988, the President approved a revised national space policy. It reaffirms the national commitment to the exploration and use of space in support of our national well being. It acknowledges that U.S. space activities are conducted by three separate and distinct sectors: two strongly interacting governmental sectors (Civil and National Security) and a separate, non-governmental commercial sector.
February 1988			f. It established the following goals and principles:
Goals	and	• Strengthen the security of the United States; • Obtain scientific technological and economic benefits for the general population and to improve the quality of life on Earth through space related activities; • Encourage private sector investment; • Promote international cooperative activities taking into account U.S. security, foreign policy, scientific, and economic interests; • Cooperate with other nations in maintaining the freedom of space for all activities that enhance the security and welfare of all mankind; and • Expand human presence and activity beyond Earth orbit into the solar system.	
Conduct of Space Activities			g. The directive also states that the U.S. shall conduct space activities in accordance with the following principles: • Committed to the exploration and peaceful use of outer space for the benefit of all mankind. Peaceful use allows for activities in pursuit of national security goals. • Pursue activities in support of its right of self defense and defense of its allies. • Rejects any claim of sovereignty over outer space or celestial bodies. • Considers the space system of any nation to be national property. • Encourages the commercial use and exploitation of space technologies. • Encourages other countries to engage in free and fair trade in commercial space

goods and services.

- Conduct international cooperative space-related activities that are expected to achieve sufficient scientific, political, economic, or national security benefits for the nation.

The Presidential Directive also covered civil, commercial, and national security space policy, inter-sector policies, implementing procedures, and policy guidelines for the civil, commercial, and national security sectors.

3-5 Bush Administration

Introduction

a. On November 2, 1989, President Bush approved a national space policy that updated and reaffirmed U.S. goals and activities in space. The policy reaffirmed the nation's commitment to the exploration and use of space in support of the U.S. national well being.

Conduct of Space Activities

b. The policy recognizes that leadership in space activities and capabilities requires preeminence in key areas. It also retains the long-term goal of expanding human presence beyond Earth orbit into the Solar System. The policy stated that space activities are conducted in three distinct sectors:

- Civil government sector
- National security sector
- Non-governmental commercial sector

Goal of U.S. Space Activities

c. The overall goal of U.S. space activities are:

- To strengthen the security of the U.S.
- To obtain scientific, technological and economic benefits for the general population and to improve the quality of life on Earth.
- To encourage continuing U.S. private sector investment in space and related activities.
- To promote international cooperative activities.
- To cooperate with other nations in maintaining the freedom of space for all activities that enhance the security and welfare of mankind.
- To expand human presence and activity beyond Earth orbit into the Solar System.

The remainder of the policy states the principles, policies, and guidelines for all of the sectors.

Space Systems are National Property

d. The policy states that the use of space for peaceful purposes can include activities related to national security. It also states that the U.S. retains its right to self-defense. The U.S. rejects any claims for sovereignty over outer space or any limits on the ability to acquire data from space. Space systems are national property and have the right of free passage without interference.

Contribution to National Security

e. The policy states that the national security space sector will contribute to national security by:

- Deterring or defending against enemy attack by any means.
- Assuring that hostile forces cannot prevent U.S. use of space.
- Negating, if necessary, hostile space systems.
- Enhancing operations of U.S. and allied forces.
- Minimizing the creation of space debris.
- Developing, operating and maintaining enduring space systems. This requires an integrated combination of anti-satellite, survivability, and surveillance capabilities. The U.S. will develop and deploy an Anti-satellite (ASAT) capability, as required. DOD space programs must provide for the survivability of selected critical space assets.
- Developing and maintaining an integrated attack warning, notification, verification, and reaction capability, which can detect and react to threats to U.S. space systems.

- Using both the Space Transportation System (STS referred to as the Shuttle) and unmanned, expendable launch vehicles.

APPENDIX C

APPENDIX C: TREATY BETWEEN THE UNITED STATES OF AMERICA AND THE UNION OF SOVIET SOCIALIST REPUBLICS ON THE LIMITATION OF ANTI-BALLISTIC MISSILE SYSTEMS

Signed at Moscow May 26, 1972

Ratification advised by U.S. Senate August 3, 1972

Ratified by U.S. President September 30, 1972

Proclaimed by U.S. President October 3, 1972

Instruments of ratification exchanged October 3, 1972

Entered into force October 3, 1972

The United States of America and the Union of Soviet Socialist Republics,
hereinafter referred to as the Parties,

Proceeding from the premise that nuclear war would have devastating consequences
for all mankind,

Considering that effective measures to limit anti-ballistic missile systems would be a
substantial factor in curbing the race in strategic offensive arms and would lead to a
decrease in the risk of outbreak of war involving nuclear weapons,

Proceeding from the premise that the limitation of anti-ballistic missile systems, as
well as certain agreed measures with respect to the limitation of strategic offensive arms,
would contribute to the creation of more favorable conditions for further negotiations on
limiting strategic arms,

Mindful of their obligations under Article VI of the Treaty on the Non-Proliferation
of Nuclear Weapons,

Declaring their intention to achieve at the earliest possible date the cessation of the nuclear arms race and to take effective measures toward reductions in strategic arms, nuclear disarmament, and general and complete disarmament,

Desiring to contribute to the relaxation of international tension and the strengthening of trust between States,

Have agreed as follows:

Article I

1. Each Party undertakes to limit anti-ballistic missile (ABM) systems and to adopt other measures in accordance with the provisions of this Treaty.

2. Each Party undertakes not to deploy ABM systems for a defense of the territory of its country and not to provide a base for such a defense, and not to deploy ABM systems for defense of an individual region except as provided for in Article III of this Treaty.

Article II

1. For the purpose of this Treaty an ABM system is a system to counter strategic ballistic missiles or their elements in flight trajectory, currently consisting of:

(a) ABM interceptor missiles, which are interceptor missiles constructed and deployed for an ABM role, or of a type tested in an ABM mode;

(b) ABM launchers, which are launchers constructed and deployed for launching ABM interceptor missiles; and

(c) ABM radars, which are radars constructed and deployed for an ABM role, or of a type tested in an ABM mode.

2. The ABM system components listed in paragraph 1 of this Article include those, which are:

- (a) Operational;
- (b) Under construction;
- (c) Undergoing testing;
- (d) Undergoing overhaul, repair or conversion; or
- (e) Mothballed.

Article III

Each Party undertakes not to deploy ABM systems or their components except that:

(a) Within one ABM system deployment area having a radius of one hundred and fifty kilometers and centered on the Party's national capital, a Party may deploy: (1) no more than one hundred ABM launchers and no more than one hundred ABM interceptor missiles at launch sites, and (2) ABM radars within no more than six ABM radar complexes, the area of each complex being circular and having a diameter of no more than three kilometers; and

(b) Within one ABM system deployment area having a radius of one hundred and fifty kilometers and containing ICBM silo launchers, a Party may deploy: (1) no more than one hundred ABM launchers and no more than one hundred ABM interceptor missiles at launch sites, (2) two large phased-array ABM radars comparable in potential to corresponding ABM radars operational or under construction on the date of signature of the Treaty in an ABM system deployment area containing ICBM silo launchers, and (3) no more than eighteen ABM radars each having a potential less than the potential of the smaller of the above-mentioned two large phased-array ABM radars.

Article IV

The limitations provided for in Article III shall not apply to ABM systems or their components used for development or testing, and located within current or additionally agreed test ranges. Each Party may have no more than a total of fifteen ABM launchers at test ranges.

Article V

1. Each Party undertakes not to develop, test, or deploy ABM systems or components which are sea-based, air-based, space-based, or mobile land-based.

2. Each Party undertakes not to develop, test or deploy ABM launchers for launching more than one ABM interceptor missile at a time from each launcher, not to modify deployed launchers to provide them with such a capacity, not to develop, test, or deploy automatic or semi-automatic or other similar systems for rapid reload of ABM launchers.

Article VI

To enhance assurance of the effectiveness of the limitations on ABM systems and their components provided by the Treaty, each Party undertakes:

(a) Not to give missiles, launchers, or radars, other than ABM interceptor missiles, ABM launchers, or ABM radars, capabilities to counter strategic ballistic missiles or their elements in flight trajectory, and not to test them in an ABM mode; and

(b) Not to deploy in the future radars for early warning of strategic ballistic missile attack except at locations along the periphery of its national territory and oriented outward.

Article VII

Subject to the provisions of this Treaty, modernization and replacement of ABM systems or their components may be carried out.

Article VIII

ABM systems or their components in excess of the numbers or outside the areas specified in this Treaty, as well as ABM systems or their components prohibited by this Treaty, shall be destroyed or dismantled under agreed procedures within the shortest possible agreed period of time.

Article IX

To assure the viability and effectiveness of this Treaty, each Party undertakes not to transfer to other States, and not to deploy outside its national territory, ABM systems or their components limited by this Treaty.

Article X

Each Party undertakes not to assume any international obligations, which would conflict with this Treaty.

Article XI

The Parties undertake to continue active negotiations for limitations on strategic offensive arms.

Article XII

1. For the purpose of providing assurance or compliance with the provisions of this Treaty, each Party shall use national technical means of verification at its disposal in a manner consistent with generally recognized principles of international law.

2. Each Party undertakes not to interfere with the national technical means of verification of the other Party operating in accordance with paragraph 1 of this Article.

3. Each Party undertakes not to use deliberate concealment measures, which impede verification by national technical means of compliance with the provisions of this Treaty.

This obligation shall not require changes in current construction, assembly, conversion, or overhaul practices.

Article XIII

1. To promote the objectives and implementation of the provisions of this Treaty, the Parties shall establish promptly a Standing Consultative Commission, within the framework of which they will:

(a) Consider questions concerning compliance with the obligations assumed and related situations which may be considered ambiguous;

b) Provide on a voluntary basis such information as either Party considers necessary to assure confidence in compliance with the obligations assumed;

(c) Consider questions involving unintended interference with national technical means of verification;

(d) Consider possible changes in the strategic situation, which have a bearing on the provisions of this Treaty;

(e) Agree upon procedures and dates for destruction or dismantling of ABM systems or their components in cases provided for by the provisions of this Treaty;

(f) Consider, as appropriate, possible proposals for further increasing the viability of this Treaty; including proposals for amendments in accordance with the provisions of this Treaty;

(g) Consider, as appropriate, proposals for further measures aimed at limiting strategic arms.

2. The Parties through consultation shall establish, and may amend as appropriate, Regulations for the Standing Consultative Commission governing procedures, composition, and other relevant matters.

Article XIV

1. Each Party may propose amendments to this Treaty. Agreed amendments shall enter into force in accordance with the procedures governing the entry into force of this Treaty.

2. Five years after entry into force of this Treaty, and at five-year intervals thereafter, the Parties shall together conduct a review of this Treaty.

Article XV

1. This Treaty shall be of unlimited duration.

2. Each Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests. It shall give notice of its decision to the other Party six months prior to withdrawal from the Treaty. Such notice shall include a statement of the extraordinary events the notifying Party regards as having jeopardized its supreme interests.

Article XVI

1. This Treaty shall be subject to ratification in accordance with the constitutional procedures of each Party. The Treaty shall enter into force on the day of the exchange of instruments of ratification.

2. This Treaty shall be registered pursuant to Article 102 of the Charter of the United Nations.

DONE at Moscow on May 26, 1972, in two copies, each in the English and Russian languages, both texts being equally authentic.

FOR THE United States of America:

RICHARD NIXON *President of the United States of America*

FOR THE UNION OF SOVIET SOCIALIST REPUBLICS:

L. I. BREZHNEV

General Secretary of the Central Committee of the CPSU

APPENDIX D

APPENDIX D: Convention on the International Liability for Damage Caused by Space Objects. Moscow, London & Washington, March 29, 1972

Opened for signature at London, Moscow, and Washington on March 29, 1972

THE STATES PARTIES TO THIS CONVENTION, RECOGNISING the common interest of all mankind in furthering the exploration and use of outer space for peaceful purposes,

RECALLING the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,

TAKING into consideration that, notwithstanding the precautionary measures to be taken by States and international intergovernmental organisations involved in the launching of space objects, damage may on occasion be caused by such objects,

RECOGNIZING the need to elaborate effective international rules and procedures concerning liability for damage caused by space objects and to ensure, in particular, the prompt payment under the terms of this Convention of a full and equitable measure of compensation to victims of such damage,

BELIEVING that the establishment of such rules and procedures will contribute to the strengthening of international co-operation in the field of the exploration and use of outer space for peaceful purposes,

HAVE AGREED ON THE FOLLOWING:

Article I

For the purposes of this Convention:

The term "damage" means loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organisations;

The term "launching" includes attempted launching;

The term "launching State" means: a state which launches or procures the launching of a space object; a State from whose territory or facility a space object is launched;

The term "space object" includes component parts of a space object as well as its launch vehicle and parts thereof.

Article II

A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth or to aircraft in flight.

Article III

In the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, the latter shall be liable only if the damage is due to its fault or the fault of persons for whom it is responsible.

Article IV

In the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, and of damage thereby being caused to a

third State or to its natural or juridical persons, the first two States shall be jointly and severally liable to the third State, to the extent indicated by the following: If the damage has been caused to the third State on the surface of the earth or to aircraft in flight, their liability to the third State shall be absolute; If the damage has been caused to a space object of the third State or to persons or property on board that space object elsewhere than on the surface of the earth, their liability to the third State shall be based on the fault of either of the first two States or on the fault of persons for whom either is responsible.

In all cases of joint and several liability referred to in paragraph 1 of this Article, the burden of compensation for the damage shall be apportioned between the first two States in accordance with the extent to which they were at fault; if the extent of the fault of each of these States cannot be established, the burden of compensation shall be apportioned equally between them. Such apportionment shall be without prejudice to the right of the third State to seek the entire compensation due under this Convention from any or all of the launching States which are jointly and severally liable.

Article V

Whenever two or more States jointly launch a space object, they shall be jointly and severally liable for any damage caused.

A launching State, which has paid compensation for damage, shall have the right to present a claim for indemnification to other participants in the joint launching. The participants in a joint launching may conclude agreements regarding the apportioning among themselves of the financial obligation in respect of which they are jointly and severally liable. Such agreements shall be without prejudice to the right of a State

sustaining damage to seek the entire compensation due under this Convention from any or all of the launching States which are jointly and severally liable.

A State from whose territory or facility a space object is launched shall be regarded as a participant in a joint launching.

Article VI

Subject to the provisions of paragraph 2 of this Article, exoneration from absolute liability shall be granted to the extent that a launching State establishes that the damage has resulted either wholly or partially from gross negligence or from an act or omission done with intent to cause damage on the part of a claimant State or of natural or juridical persons it represents.

No exoneration whatever shall be granted in cases where the damage has resulted from activities conducted by a launching State which are not in conformity with international law including, in particular, the Charter of the United Nations and the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer space, including the Moon and Other Celestial Bodies.

Article VII

The provisions of this Convention shall not apply to damage caused by a space object of a launching State to: nationals of that launching State; foreign nationals during such time as they are participating in the operation of that space object from the time of its launching or at any stage thereafter until its descent, or during such time as they are in the immediate vicinity of a planned launching or recovery area as the result of an invitation by that launching State.

Article VIII

A State, which suffers damage, or whose natural or juridical persons suffer damage, may present to a launching State a claim for compensation for such damage.

If the State of nationality has not presented a claim, another State may, in respect of damage sustained in its territory by any natural or juridical person, present a claim to a launching State.

If neither the State of nationality nor the State in whose territory the damage was sustained has presented a claim or notified its intention of presenting a claim, another State may, in respect of damage sustained by its permanent residents, present a claim to a launching State.

Article IX

A claim for compensation for damage shall be presented to a launching State through diplomatic channels. If a State does not maintain diplomatic relations with the launching State concerned, it may request another State to present its claim to that launching State or otherwise represent its interests under this Convention. It may also present its claim through the Secretary-General of the United Nations, provided the claimant State and the launching State are both Members of the United Nations.

Article X

A claim for compensation for damage may be presented to a launching State not later than one-year following the date of the occurrence of the damage or the identification of the launching State, which is liable.

If, however, a State does not know of the occurrence of the damage or has not been able to identify the launching State which is liable, it may present a claim within one year following the date on which it learned of the aforementioned facts; however, this period

shall in no event exceed one year following the date on which the State could reasonably be expected to have learned of the facts through the exercise of due diligence.

The time-limits specified in paragraphs 1 and 2 of this Article shall apply even if the full extent of the damage may not be known. In this event, however, the claimant State shall be entitled to revise the claim and submit additional documentation after the expiration of such time-limits until one year after the full extent of the damage is known.

Article XI

Presentation of a claim to a launching State for compensation for damage under this Convention shall not require the prior exhaustion of any local remedies which may be available to a claimant State or to natural or juridical persons it represents.

Nothing in this Convention shall prevent a State, or natural or juridical persons it might represent, from pursuing a claim in the courts or administrative tribunals or agencies of a launching State. A State shall not, however, be entitled to present a claim under this Convention in respect of the same damage for which a claim is being pursued in the courts or administrative tribunals or agencies of a launching State or under another international agreement which is binding on the States concerned.

Article XII

The compensation which the launching State shall be liable to pay for damage under this Convention shall be determined in accordance with international law and the principles of justice and equity, in order to provide such reparation in respect of the damage as will restore the person, natural or juridical, State or international organisation on whose behalf the claim is presented to the condition which would have existed if the damage had not occurred.

Article XIII

Unless the claimant State and the State from which compensation is due under this Convention agree on another form of compensation, the compensation shall be paid in the currency of the claimant State or, if that State so requests, in the currency of the State from which compensation is due.

Article XIV

If no settlement of a claim is arrived at through diplomatic negotiations as provided for in Article IX, within one year from the date on which the claimant State notifies the launching State that it has submitted the documentation of its claim, the parties concerned shall establish a Claims Commission at the request of either party.

Article XV

The Claims Commission shall be composed of three members: one appointed by the claimant State, one appointed by the launching State and the third member, the Chairman, to be chosen by both parties jointly. Each party shall make its appointment within two months of the request for the establishment of the Claims Commission.

If no agreement is reached on the choice of the Chairman within four months of the request for the establishment of the Commission, either party may request the Secretary-General of the United Nations to appoint the Chairman within a further period of two months.

Article XVI

If one of the parties does not make its appointment within the stipulated period, the Chairman shall, at the request of the other party, constitute a single-member Claims Commission.

Any vacancy, which may arise in the Commission for whatever reason shall be filled by the same procedure, adopted for the original appointment.

The Commission shall determine its own procedure.

The Commission shall determine the place or places where it shall sit and all other administrative matters.

Except in the case of decisions and awards by a single-member Commission, all decisions and awards of the Commission shall be by majority vote.

Article XVII

No increase in the membership of the Claims Commission shall take place by reason of two or more claimant States or launching States being joined in any one proceeding before the Commission. The claimant States so joined shall collectively appoint one member of the Commission in the same manner and subject to the same conditions as would be the case for a single claimant State. When two or more launching States are so joined, they shall collectively appoint one member of the Commission in the same way. If the claimant States or the launching States do not make the appointment within the stipulated period, the Chairman shall constitute a single-member Commission.

Article XVIII

The Claims Commission shall decide the merits of the claim for compensation and determine the amount of compensation payable, if any.

Article XIX

The Claims Commission shall act in accordance with the provisions of Article XII.

The decision of the Commission shall be final and binding if the parties have so agreed; otherwise the Commission shall render a final and recommendatory award, which

the parties shall consider in good faith. The Commission shall state the reasons for its decision or award.

The Commission shall give its decision or award as promptly as possible and no later than one year from the date of its establishment, unless an extension of this period is found necessary by the Commission.

The Commission shall make its decision or award public. It shall deliver a certified copy of its decision or award to each of the parties and to the Secretary-General of the United Nations.

Article XX

The expenses in regard to the Claims Commission shall be borne equally by the parties, unless otherwise decided by the Commission.

Article XXI

If the damage caused by a space object presents a large-scale danger to human life or seriously interferes with the living conditions of the population or the functioning of vital centres, the States Parties, and in particular the launching State, shall examine the possibility of rendering appropriate and rapid assistance to the State which has suffered the damage, when it so requests. However, nothing in this Article shall affect the rights or obligations of the States Parties under this Convention.

Article XXII

In this Convention, with the exception of Article XXIV to XXVII, references to States shall be deemed to apply to any international intergovernmental organisation which conducts space activities if the organisation declares its acceptance of the rights

and obligations provided for in this Convention and if a majority of the States members of the organisation are States

Parties to this Convention and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

States members of any such organisation which are States Parties to this Convention shall take all appropriate steps to ensure that the organisation makes a declaration in accordance with the preceding paragraph.

If an international intergovernmental organisation is liable for damage by virtue of the provisions of this Convention, that organisation and those of its members which are States Parties to this Convention shall be jointly and severally liable; provided, however, that: any claim for compensation in respect of such damage shall be first presented to the organisation; only where the organisation has not paid, within a period of six months, any sum agreed or determined to be due as compensation for such damage, may the claimant State invoke the liability of the members which are States Parties to this Convention for the payment of that sum. Any claim, pursuant to the provisions of this Convention, for compensation in respect of damage caused to an organisation which has made a declaration in accordance with paragraph 1 of this Article shall be presented by a State member of the organisation which is a State Party to this Convention.

Article XXIII

The provisions of this Convention shall not affect other international agreements in force in so far as relations between the States Parties to such agreements are concerned.

No provision of this Convention shall prevent States from concluding international agreements reaffirming, supplementing or extending its provisions.

Article XXIV

This Convention shall be open to all States for signature. Any State which does not sign this Convention before its entry into force in accordance with paragraph 3 of this Article may accede to it at any time. This Convention shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United Kingdom of Great Britain and Northern Ireland, the Union of Soviet Socialist Republics and the United States of America, which are hereby designated the Depositary Governments.

This Convention shall enter into force on the deposit of the fifth instrument of ratification.

For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Convention, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Convention, the date of its entry into force and other notices. This Convention shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article XXV

Any State Party to this Convention may propose amendments to this Convention. Amendments shall enter into force for each State Party to the Convention accepting the

amendments upon their acceptance by a majority of the States Parties to the Convention and thereafter for each remaining State Party on the date of acceptance by it.

Article XXVI

Ten years after the entry into force of this Convention, the question of the review of this Convention shall be included in the provisional agenda of the United Nations General Assembly in order to consider, in the light of past application of the Convention, whether it requires revision. However, at any time after the Convention has been in force for five years, and at the request of one third of the States Parties to the Convention, and with the concurrence of the majority of the States Parties, a conference of the States Parties shall be convened to review this Convention.

Article XXVII

Any State Party to this Convention may give notice of its withdrawal from the Convention one year after its entry into force by written notification to the Depositary Governments. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XXVIII

This Convention, of which the English, Russian, French, Spanish and Chinese texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Convention shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

APPENDIX E

APPENDIX E: The Agreement on the Rescue and Return of Astronauts

ENTERED INTO FORCE: 3 December 1968

The Contracting Parties, Noting the great importance of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, which calls for the rendering of all possible assistance to astronauts in the event of accident, distress or emergency landing, the prompt and safe return of astronauts, and the return of objects launched into outer space,

Desiring to develop and give further concrete expression to these duties, Wishing to promote international co-operation in the peaceful exploration and use of outer space,

Prompted by sentiments of humanity,

Have agreed on the following:

Article 1

Each Contracting Party which receives information or discovers that the personnel of a spacecraft have suffered accident or are experiencing conditions of distress or have made an emergency or unintended landing in territory under its jurisdiction or on the high seas or in any other place not under the jurisdiction of any State shall immediately:

Notify the launching authority or, if it cannot identify and immediately communicate with the launching authority, immediately make a public announcement by all appropriate means of communication at its disposal;

Notify the Secretary-General of the United Nations, who should disseminate the information without delay by all appropriate means of communication at his disposal.

Article 2

If, owing to accident, distress, emergency or unintended landing, the personnel of a spacecraft land in territory under the jurisdiction of a Contracting Party, it shall immediately take all possible steps to rescue them and render them all necessary assistance. It shall inform the launching authority and also the Secretary-General of the United Nations of the steps it is taking and of their progress. If assistance by the launching authority would help to effect a prompt rescue or would contribute substantially to the effectiveness of search and rescue operations, the launching authority shall co-operate with the Contracting Party with a view to the effective conduct of search and rescue operations. Such operations shall be subject to the direction and control of the Contracting Party, which shall act in close and continuing consultation with the launching authority.

Article 3

If information is received or it is discovered that the personnel of a spacecraft have alighted on the high seas or in any other place not under the jurisdiction of any State, those Contracting Parties which are in a position to do so shall, if necessary, extend

assistance in search and rescue operations for such personnel to assure their speedy rescue. They shall inform the launching authority and the Secretary-General of the United Nations of the steps they are taking and of their progress.

Article 4

IF, OWING TO ACCIDENT, DISTRESS, EMERGENCY OR UNINTENDED LANDING, THE PERSONNEL OF A SPACECRAFT LAND IN TERRITORY UNDER THE JURISDICTION OF A CONTRACTING PARTY OR HAVE BEEN FOUND ON THE HIGH SEAS OR IN ANY OTHER PLACE NOT UNDER THE JURISDICTION OF ANY STATE, THEY SHALL BE SAFELY AND PROMPTLY RETURNED TO REPRESENTATIVES OF THE LAUNCHING AUTHORITY.

Article 5

Each Contracting Party which receives information or discovers that a space object or its component parts has returned to Earth in territory under its jurisdiction or on the high seas or in any other place not under the jurisdiction of any State, shall notify the launching authority and the Secretary-General of the United Nations.

Each Contracting Party having jurisdiction over the territory on which a space object or its component parts has been discovered shall, upon the request of the launching authority and with assistance from that authority if requested, take such steps as it finds practicable to recover the object or component parts.

Upon request of the launching authority, objects launched into outer space or their component parts found beyond the territorial limits of the launching authority shall be returned to or held at the disposal of representatives of the launching authority, which shall, upon request, furnish identifying data prior to their return.

Notwithstanding paragraphs 2 and 3 of this Article, a Contracting Party which has reason to believe that a space object or its component parts discovered in territory under its jurisdiction, or recovered by it elsewhere, is of a hazardous or deleterious nature may so notify the launching authority, which shall immediately take effective steps, under the direction and control of the said Contracting Party, to eliminate possible danger of harm.

Expenses incurred in fulfilling obligations to recover and return a space object or its component parts under paragraphs 2 and 3 of this Article shall be borne by the launching authority.

Article 6

For the purposes of this Agreement, the term "launching authority" shall refer to the State responsible for launching, or, where an international intergovernmental organization is responsible for launching, that organization, provided that that organization declares its acceptance of the rights and obligations provided for in this Agreement and a majority of the States members of that organization are Contracting Parties to this Agreement and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

Article 7

This Agreement shall be open to all States for signature. Any State which does not sign this Agreement before its entry into force in accordance with paragraph 3 of this Article may accede to it at any time.

This Agreement shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the

United Kingdom of Great Britain and Northern Ireland, the Union of Soviet Socialist Republics and the United States of America, which are hereby designated the Depositary Governments.

This Agreement shall enter into force upon the deposit of instruments of ratification by five Governments including the Governments designated as Depositary Governments under this Agreement.

For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Agreement, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Agreement, the date of its entry into force and other notices.

This Agreement shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article 8

Any State Party to the Agreement may propose amendments to this Agreement. Amendments shall enter into force for each State Party to the Agreement accepting the amendments upon their acceptance by a majority of the States Parties to the Agreement and thereafter for each remaining State Party to the Agreement on the date of acceptance by it. Article 9 Any State Party to the Agreement may give notice of its withdrawal from the Agreement one year after its entry into force by written notification to the Depositary Governments. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article 10

This Agreement, of which the English, Russian, French, Spanish and Chinese texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Agreement shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

In witness whereof the undersigned, duly authorised, have signed this Agreement. Done in triplicate, at the cities of London, Moscow and Washington, the twenty-second day of April, one thousand nine hundred and sixty-eight.

APPENDIX F

APPENDIX F: Convention on the Registration of Space Objects Launched into Outer Space

The States Parties to this Convention,

Recognizing the common interest of all mankind in furthering the exploration and use of outer space for peaceful purposes,

Recalling that the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies of 27 January 1967 affirms that States shall bear international responsibility for their national activities in outer space and refers to the State on whose registry an object launched into outer space is carried,

Recalling also that the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space of 22 April 1968 provides that a launching authority shall, upon request, furnish identifying data prior to the return of an object it has launched into outer space found beyond the territorial limits of the launching authority,

Recalling further that the Convention on International Liability for Damage Caused by Space Objects of 29 March 1972 establishes international rules and procedures concerning the liability of launching States for damage caused by their space objects,

Desiring, in the light of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, to make provision for the national registration by launching States of space objects launched into outer space,

Desiring further that a central register of objects launched into outer space be established and maintained, on a mandatory basis, by the Secretary-General of the United Nations,

Desiring also to provide for States Parties additional means and procedures to assist in the identification of space objects,

Believing that a mandatory system of registering objects launched into outer space would, in particular, assist in their identification and would contribute to the application and development of international law governing the exploration and use of outer space,

Have agreed on the following:

Article I

For the purposes of this Convention:

(a) The term "launching State" means:

(i) A State which launches or procures the launching of a space object;

(ii) A State from whose territory or facility a space object is launched;

(b) The term "space object" includes component parts of a space object as well as its launch vehicle and parts thereof;

(c) The term "State of registry" means a launching State on whose registry a space object is carried in accordance with article II.

Article II

1. When a space object is launched into earth orbit or beyond, the launching State shall register the space object by means of an entry in an appropriate registry, which it shall maintain. Each launching State shall inform the Secretary-General of the United Nations of the establishment of such a registry.

2. Where there are two or more launching States in respect of any such space object, they shall jointly determine which one of them shall register the object in accordance with paragraph 1 of this article, bearing in mind the provisions of article VIII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and without prejudice to appropriate agreements concluded or to be concluded among the launching States on jurisdiction and control over the space object and over any personnel thereof.

3. The contents of each registry and the conditions under which it is maintained shall be determined by the State of registry concerned.

Article III

1. The Secretary-General of the United Nations shall maintain a Register in which the information furnished in accordance with article IV shall be recorded.

2. There shall be full and open access to the information in this Register.

Article IV

1. Each State of registry shall furnish to the Secretary-General of the United Nations, as soon as practicable; the following information concerning each space object carried on its registry:

(a) Name of launching State or States;

(b) An appropriate designator of the space object or its registration number;

(c) Date and territory or location of launch;

(d) Basic orbital parameters, including:

(i) Nodal period;

(ii) Inclination;

(iii) Apogee;

(iv) Perigee;

(e) General function of the space object.

2. Each State of registry may, from time to time, provide the Secretary-General of the United Nations with additional information concerning a space object carried on its registry.

3. Each State of registry shall notify the Secretary-General of the United Nations, to the greatest extent feasible and as soon as practicable, of space objects concerning which it has previously transmitted information, and which have been but no longer are in earth orbit.

Article V

Whenever a space object launched into earth orbit or beyond is marked with the designator or registration number referred to in article IV, paragraph 1 (b), or both, the State of registry shall notify the Secretary-General of this fact when submitting the information regarding the space object in accordance with article IV. In such case, the Secretary-General of the United Nations shall record this notification in the Register.

Article VI

Where the application of the provisions of this Convention has not enabled a State Party to identify a space object which has caused damage to it or to any of its natural or

juridical persons, or which may be of a hazardous or deleterious nature, other States Parties, including in particular States possessing space monitoring and tracking facilities, shall respond to the greatest extent feasible to a request by that State Party, or transmitted through the Secretary-General on its behalf, for assistance under equitable and reasonable conditions in the identification of the object. A State Party making such a request shall, to the greatest extent feasible, submit information as to the time; nature and circumstances of the events giving rise to the request. Arrangements under which such assistance shall be rendered shall be the subject of agreement between the parties concerned.

Article VII

1. In this Convention, with the exception of articles VIII to XII inclusive, references to States shall be deemed to apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Convention and if a majority of the States members of the organization are States Parties to this Convention and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

2. States members of any such organization, which are States Parties to this Convention shall take all appropriate steps to ensure that the organization makes a declaration in accordance with paragraph 1 of this article.

Article VIII

1. This Convention shall be open for signature by all States at United Nations Headquarters in New York. Any State which does not sign this Convention before its

entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Convention shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Secretary-General of the United Nations.

3. This Convention shall enter into force among the States which have deposited instruments of ratification on the deposit of the fifth such instrument with the Secretary-General of the United Nations.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Convention, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Secretary-General shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of and accession to this Convention, the date of its entry into force and other notices.

Article IX

Any State Party to this Convention may propose amendments to the Convention. Amendments shall enter into force for each State Party to the Convention accepting the amendments upon their acceptance by a majority of the States Parties to the Convention and thereafter for each remaining State Party to the Convention on the date of acceptance by it.

Article X

Ten years after the entry into force of this Convention, the question of the review of the Convention shall be included in the provisional agenda of the United Nations General

Assembly in order to consider, in the light of past application of the Convention, whether it requires revision. However, at any time after the Convention has been in force for five years, at the request of one third of the States Parties to the Convention and with the concurrence of the majority of the States Parties, a conference of the States Parties shall be convened to review this Convention. Such review shall take into account in particular any relevant technological developments, including those relating to the identification of space objects.

Article XI

Any State Party to this Convention may give notice of its withdrawal from the Convention one year after its entry into force by written notification to the Secretary-General of the United Nations. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XII

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all signatory and acceding States.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto by their respective Governments, have signed this Convention, opened for signature at New York on the fourteenth day of January, one thousand nine hundred and seventy-five.

APPENDIX G

APPENDIX G: The Comprehensive Nuclear Test-Ban Treaty

THE COMPREHENSIVE NUCLEAR TEST-BAN TREATY PREAMBLE

The States Parties to this Treaty (hereinafter referred to as "the States Parties"),

Welcoming the international agreements and other positive measures of recent years in the field of nuclear disarmament, including reductions in arsenals of nuclear weapons, as well as in the field of the prevention of nuclear proliferation in all its aspects,

Underlining the importance of the full and prompt implementation of such agreements and measures,

Convinced that the present international situation provides an opportunity to take further effective measures towards nuclear disarmament and against the proliferation of nuclear weapons in all its aspects, and declaring their intention to take such measures,

Stressing therefore the need for continued systematic and progressive efforts to reduce nuclear weapons globally, with the ultimate goal of eliminating those weapons, and of general and complete disarmament under strict and effective international control,

Recognizing that the cessation of all nuclear weapon test explosions and all other nuclear explosions, by constraining the development and qualitative improvement of nuclear weapons and ending the development of advanced new types of nuclear weapons, constitutes an effective measure of nuclear disarmament and non-proliferation in all its aspects,

Further recognizing that an end to all such nuclear explosions will thus constitute a meaningful step in the realization of a systematic process to achieve nuclear disarmament,

Convinced that the most effective way to achieve an end to nuclear testing is

through the conclusion of a universal and internationally and effectively verifiable comprehensive nuclear test-ban treaty, which has long been one of the highest priority objectives of the international community in the field of disarmament and non-proliferation,

Noting the aspirations expressed by the Parties to the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time,

Noting also the views expressed that this Treaty could contribute to the protection of the environment,

Affirming the purpose of attracting the adherence of all States to this Treaty and its objective to contribute effectively to the prevention of the proliferation of nuclear weapons in all its aspects, to the process of nuclear disarmament and therefore to the enhancement of international peace and security,

Have agreed as follows:

ARTICLE I BASIC OBLIGATIONS

1. Each State Party undertakes not to carry out any nuclear weapon test explosion or any other nuclear explosion, and to prohibit and prevent any such nuclear explosion at any place under its jurisdiction or control.

2. Each State Party undertakes, furthermore, to refrain from causing, encouraging, or in any way participating in the carrying out of any nuclear weapon test explosion or any other nuclear explosion.

ARTICLE II THE ORGANIZATION

A. GENERAL PROVISIONS

1. The States Parties hereby establish the Comprehensive Nuclear Test-Ban Treaty Organization (hereinafter referred to as "the Organization") to achieve the object and purpose of this Treaty, to ensure the implementation of its provisions, including those for

international verification of compliance with it, and to provide a forum for consultation and cooperation among States Parties.

2. All States Parties shall be members of the Organization. A State Party shall not be deprived of its membership in the Organization.

3. The seat of the Organization shall be Vienna, Republic of Austria.

4. There are hereby established as organs of the Organization: the Conference of the States Parties, the Executive Council, and the Technical Secretariat, which shall include the International Data Centre.

5. Each State Party shall cooperate with the Organization in the exercise of its functions in accordance with this Treaty. States Parties shall consult, directly among themselves, or through the Organization or other appropriate international procedures, including procedures within the framework of the United Nations and in accordance with its Charter, on any matter which may be raised relating to the object and purpose, or the implementation of the provisions, of this Treaty.

6. The Organization shall conduct its verification activities provided for under this Treaty in the least intrusive manner possible consistent with the timely and efficient accomplishment of their objectives. It shall request only the information and data necessary to fulfil its responsibilities under this Treaty. It shall take every precaution to protect the confidentiality of information on civil and military activities and facilities coming to its knowledge in the implementation of this Treaty and, in particular, shall abide by the confidentiality provisions set forth in this Treaty.

7. Each State Party shall treat as confidential and afford special handling to information and data that it receives in confidence from the Organization in connection with the implementation of this Treaty. It shall treat such information and data exclusively in connection with its rights and obligations under this Treaty.

8. The Organization, as an independent body, shall seek to utilize existing expertise and facilities, as appropriate, and to maximize cost efficiencies, through cooperative arrangements with other international organizations such as the International Atomic Energy Agency. Such arrangements, excluding those of a minor and normal commercial and contractual nature, shall be set out in agreements to be submitted to the Conference of the States Parties for approval.

9. The costs of the activities of the Organization shall be met annually by the States Parties in accordance with the United Nations scale of assessments adjusted to take into account differences in membership between the United Nations and the Organization.

10. Financial contributions of States Parties to the Preparatory Commission shall be deducted in an appropriate way from their contributions to the regular budget.

11. A member of the Organization which is in arrears in the payment of its assessed contribution to the Organization shall have no vote in the Organization if the amount of its arrears equals or exceeds the amount of the contribution due from it for the preceding two full years. The Conference of the States Parties may, nevertheless, permit such a member to vote if it is satisfied that the failure to pay is due to conditions beyond the control of the member.

B. THE CONFERENCE OF THE STATES PARTIES

Composition, Procedures and Decision-making

12. The Conference of the States Parties (hereinafter referred to as "the Conference") shall be composed of all States Parties. Each State Party shall have one representative in the Conference, who may be accompanied by alternates and advisers.

13. The initial session of the Conference shall be convened by the Depositary no later than 30 days after the entry into force of this Treaty.

14. The Conference shall meet in regular sessions, which shall be held annually, unless it decides otherwise.

15. A special session of the Conference shall be convened:

(a) When decided by the Conference;

(b) When requested by the Executive Council; or

(c) When requested by any State Party and supported by a majority of the States Parties.

The special session shall be convened no later than 30 days after the decision of the Conference, the request of the Executive Council, or the attainment of the necessary support, unless specified otherwise in the decision or request.

16. The Conference may also be convened in the form of an Amendment Conference, in accordance with Article VII.

17. The Conference may also be convened in the form of a Review Conference, in accordance with Article VIII.

18. Sessions shall take place at the seat of the Organization unless the Conference decides otherwise.

19. The Conference shall adopt its rules of procedure. At the beginning of each session, it shall elect its President and such other officers as may be required. They shall hold office until a new President and other officers are elected at the next session.

20. A majority of the States Parties shall constitute a quorum.

21. Each State Party shall have one vote.

22. The Conference shall take decisions on matters of procedure by a majority of members present and voting. Decisions on matters of substance shall be taken as far as possible by consensus. If consensus is not attainable when an issue comes up for decision, the President of the Conference shall defer any vote for 24 hours and during this period of deferment shall make every effort to facilitate achievement of consensus, and shall report to the Conference before the end of this period. If consensus is not possible at the end of 24 hours, the Conference shall take a decision by a two-thirds majority of members present and voting unless specified otherwise in this Treaty. When the issue arises as to whether the question is one of substance or not, that question shall be treated as a matter of substance unless otherwise decided by the majority required for decisions on matters of substance.

23. When exercising its function under paragraph 26 (k), the Conference shall take a decision to add any State to the list of States contained in Annex 1 to this Treaty in accordance with the procedure for decisions on matters of substance set out in paragraph 22. Notwithstanding paragraph 22, the Conference shall take decisions on any other change to Annex 1 to this Treaty by consensus.

Powers and Functions

24. The Conference shall be the principal organ of the Organization. It shall consider any questions, matters, or issues within the scope of this Treaty, including those relating to the powers and functions of the Executive Council and the Technical Secretariat, in accordance with this Treaty. It may make recommendations and take decisions on any questions; matters or issues within the scope of this Treaty raised by a State Party or brought to its attention by the Executive Council.

25. The Conference shall oversee the implementation of, and review compliance with, this Treaty and act in order to promote its object and purpose. It shall also oversee the activities of the Executive Council and the Technical Secretariat and may issue guidelines to either of them for the exercise of their functions.

26. The Conference shall:

(a) Consider and adopt the report of the Organization on the implementation of this Treaty and the annual programme and budget of the Organization, submitted by the Executive Council, as well as consider other reports;

(b) Decide on the scale of financial contributions to be paid by States Parties in accordance with paragraph 9;

(c) Elect the members of the Executive Council;

(d) Appoint the Director-General of the Technical Secretariat (hereinafter referred to as "the Director-General");

(e) Consider and approve the rules of procedure of the Executive Council submitted by the latter;

(f) Consider and review scientific and technological developments that could affect the operation of this Treaty. In this context, the Conference may direct the Director-

General to establish a Scientific Advisory Board to enable him or her, in the performance of his or her functions, to render specialized advice in areas of science and technology relevant to this Treaty to the Conference, to the Executive Council, or to States Parties. In that case, the Scientific Advisory Board shall be composed of independent experts serving in their individual capacity and appointed, in accordance with terms of reference adopted by the Conference, on the basis of their expertise and experience in the particular scientific fields relevant to the implementation of this Treaty;

(g) Take the necessary measures to ensure compliance with this Treaty and to redress and remedy any situation that contravenes the provisions of this Treaty, in accordance with Article V;

(h) Consider and approve at its initial session any draft agreements, arrangements, provisions, procedures, operational manuals, guidelines and any other documents developed and recommended by the Preparatory Commission;

(i) Consider and approve agreements or arrangements negotiated by the Technical Secretariat with States Parties, other States and international organizations to be concluded by the Executive Council on behalf of the Organization in accordance with paragraph 38 (h);

(j) Establish such subsidiary organs as it finds necessary for the exercise of its functions in accordance with this Treaty; and

(k) Update Annex 1 to this Treaty, as appropriate, in accordance with paragraph 23.

C. THE EXECUTIVE COUNCIL

Composition, Procedures and Decision-making

27. The Executive Council shall consist of 51 members. Each State Party shall have the right, in accordance with the provisions of this Article, to serve on the Executive Council.

28. Taking into account the need for equitable geographical distribution the Executive Council shall comprise:

- (a) Ten States Parties from Africa;
- (b) Seven States Parties from Eastern Europe;
- (c) Nine States Parties from Latin America and the Caribbean;
- (d) Seven States Parties from the Middle East and South Asia;
- (e) Ten States Parties from North America and Western Europe; and
- (f) Eight States Parties from South-East Asia, the Pacific, and the Far East.

All States in each of the above geographical regions are listed in Annex 1 to this Treaty. Annex 1 to this Treaty shall be updated, as appropriate, by the Conference in accordance with paragraphs 23 and 26 (k). It shall not be subject to amendments or changes under the procedures contained in Article VII.

29. The members of the Executive Council shall be elected by the Conference. In this connection, each geographical region shall designate States Parties from that region for election as members of the Executive Council as follows:

- (a) At least one-third of the seats allocated to each geographical region shall be filled, taking into account political and security interests, by States Parties in that region designated on the basis of the nuclear capabilities relevant to the Treaty as determined by international data as well as all or any of the following indicative criteria in the order of priority determined by each region:

(i) Number of monitoring facilities of the International Monitoring System;

(ii) Expertise and experience in monitoring technology; and

(iii) Contribution to the annual budget of the Organization;

(b) One of the seats allocated to each geographical region shall be filled on a rotational basis by the State Party that is first in the English alphabetical order among the States Parties in that region that have not served as members of the Executive Council for the longest period of time since becoming States Parties or since their last term, whichever is shorter. A State Party designated on this basis may decide to forgo its seat. In that case, such a State Party shall submit a letter of renunciation to the Director-General, and the seat shall be filled by the State Party following next-in-order according to this sub-paragraph; and

(c) The remaining seats allocated to each geographical region shall be filled by States Parties designated from among all the States Parties in that region by rotation or elections.

30. Each member of the Executive Council shall have one representative on the Executive Council, who may be accompanied by alternates and advisers.

31. Each member of the Executive Council shall hold office from the end of the session of the Conference at which that member is elected until the end of the second regular annual session of the Conference thereafter, except that for the first election of the Executive Council, 26 members shall be elected to hold office until the end of the third regular annual session of the Conference, due regard being paid to the established numerical proportions as described in paragraph 28.

32. The Executive Council shall elaborate its rules of procedure and submit them to the Conference for approval.

33. The Executive Council shall elect its Chairman from among its members.

34. The Executive Council shall meet for regular sessions. Between regular sessions it shall meet as may be required for the fulfilment of its powers and functions.

35. Each member of the Executive Council shall have one vote.

36. The Executive Council shall take decisions on matters of procedure by a majority of all its members. The Executive Council shall take decisions on matters of substance by a two-thirds majority of all its members unless specified otherwise in this Treaty. When the issue arises as to whether the question is one of substance or not, that question shall be treated as a matter of substance unless otherwise decided by the majority required for decisions on matters of substance.

Powers and Functions

37. The Executive Council shall be the executive organ of the Organization. It shall be responsible to the Conference. It shall carry out the powers and functions entrusted to it in accordance with this Treaty. In so doing, it shall act in conformity with the recommendations, decisions, and guidelines of the Conference and ensure their continuous and proper implementation.

38. The Executive Council shall:

- (a) Promote effective implementation of, and compliance with, this Treaty;
- (b) Supervise the activities of the Technical Secretariat;
- (c) Make recommendations as necessary to the Conference for consideration of further proposals for promoting the object and purpose of this Treaty;

(d) Cooperate with the National Authority of each State Party;

(e) Consider and submit to the Conference the draft annual programme and budget of the Organization, the draft report of the Organization on the implementation of this Treaty, the report on the performance of its own activities and such other reports as it deems necessary or that the Conference may request;

(f) Make arrangements for the sessions of the Conference, including the preparation of the draft agenda;

(g) Examine proposals for changes, on matters of an administrative or technical nature, to the Protocol or the Annexes thereto, pursuant to Article VII, and make recommendations to the States Parties regarding their adoption;

(h) Conclude, subject to prior approval of the Conference, agreements or arrangements with States Parties, other States and international organizations on behalf of the Organization and supervise their implementation, with the exception of agreements or arrangements referred to in sub-paragraph (i);

(i) Approve and supervise the operation of agreements or arrangements relating to the implementation of verification activities with States Parties and other States; and

(j) Approve any new operational manuals and any changes to the existing operational manuals that may be proposed by the Technical Secretariat.

39. The Executive Council may request a special session of the Conference.

40. The Executive Council shall:

(a) Facilitate cooperation among States Parties, and between States Parties and the Technical Secretariat, relating to the implementation of this Treaty through information exchanges;

(b) Facilitate consultation and clarification among States Parties in accordance with Article IV; and

(c) Receive, consider, and take action on requests for, and reports on, on-site inspections in accordance with Article IV.

41. The Executive Council shall consider any concern raised by a State Party about possible non-compliance with this Treaty and abuse of the rights established by this Treaty. In doing so, the Executive Council shall consult with the States Parties involved and, as appropriate, request a State Party to take measures to redress the situation within a specified time. To the extent that the Executive Council considers further action to be necessary, it shall take, *inter alia*, one or more of the following measures:

(a) Notify all States Parties of the issue or matter;

(b) Bring the issue or matter to the attention of the Conference;

(c) Make recommendations to the Conference or take action, as appropriate, regarding measures to redress the situation and to ensure compliance in accordance with Article V.

D. THE TECHNICAL SECRETARIAT

42. The Technical Secretariat shall assist States Parties in the implementation of this Treaty. The Technical Secretariat shall assist the Conference and the Executive Council in the performance of their functions. The Technical Secretariat shall carry out the verification and other functions entrusted to it by this Treaty, as well as those functions delegated to it by the Conference or the Executive Council in accordance with this Treaty. The Technical Secretariat shall include, as an integral part, the International Data Centre.

43. The functions of the Technical Secretariat with regard to verification of compliance with this Treaty shall, in accordance with Article IV and the Protocol, include *inter alia*:

(a) Being responsible for supervising and coordinating the operation of the International Monitoring System;

(b) Operating the International Data Centre;

(c) Routinely receiving, processing, analyzing and reporting on International Monitoring System data;

(d) Providing technical assistance in, and support for, the installation and operation of monitoring stations;

(e) Assisting the Executive Council in facilitating consultation and clarification among States Parties;

(f) Receiving requests for on-site inspections and processing them, facilitating Executive Council consideration of such requests, carrying out the preparations for, and providing technical support during, the conduct of on-site inspections, and reporting to the Executive Council;

(g) Negotiating agreements or arrangements with States Parties, other States and international organizations and concluding, subject to prior approval by the Executive Council, any such agreements or arrangements relating to verification activities with States Parties or other States; and

(h) Assisting the States Parties through their National Authorities on other issues of verification under this Treaty.

44. The Technical Secretariat shall develop and maintain, subject to approval by the Executive Council, operational manuals to guide the operation of the various components of the verification regime, in accordance with Article IV and the Protocol. These manuals shall not constitute integral parts of this Treaty or the Protocol and may be changed by the Technical Secretariat subject to approval by the Executive Council. The Technical Secretariat shall promptly inform the States Parties of any changes in the operational manuals.

45. The functions of the Technical Secretariat with respect to administrative matters shall include:

(a) Preparing and submitting to the Executive Council the draft programme and budget of the Organization;

(b) Preparing and submitting to the Executive Council the draft report of the Organization on the implementation of this Treaty and such other reports as the Conference or the Executive Council may request;

(c) Providing administrative and technical support to the Conference, the Executive Council, and other subsidiary organs;

(d) Addressing and receiving communications on behalf of the Organization relating to the implementation of this Treaty; and

(e) Carrying out the administrative responsibilities related to any agreements between the Organization and other international organizations.

46. All requests and notifications by States Parties to the Organization shall be transmitted through their National Authorities to the Director-General. Requests and

notifications shall be in one of the official languages of this Treaty. In response the Director-General shall use the language of the transmitted request or notification.

47. With respect to the responsibilities of the Technical Secretariat for preparing and submitting to the Executive Council the draft programme and budget of the Organization, the Technical Secretariat shall determine and maintain a clear accounting of all costs for each facility established as part of the International Monitoring System. Similar treatment in the draft programme and budget shall be accorded to all other activities of the Organization.

48. The Technical Secretariat shall promptly inform the Executive Council of any problems that have arisen with regard to the discharge of its functions that have come to its notice in the performance of its activities and that it has been unable to resolve through consultations with the State Party concerned.

49. The Technical Secretariat shall comprise a Director-General, who shall be its head and chief administrative officer, and such scientific, technical and other personnel as may be required. The Director-General shall be appointed by the Conference upon the recommendation of the Executive Council for a term of four years, renewable for one further term, but not thereafter. The first Director-General shall be appointed by the Conference at its initial session upon the recommendation of the Preparatory Commission.

50. The Director-General shall be responsible to the Conference and the Executive Council for the appointment of the staff and for the organization and functioning of the Technical Secretariat. The paramount consideration in the employment of the staff and in the determination of the conditions of service shall be the necessity of securing the

highest standards of professional expertise, experience, efficiency, competence, and integrity. Only citizens of States Parties shall serve as the Director-General, as inspectors or as members of the professional and clerical staff. Due regard shall be paid to the importance of recruiting the staff on as wide a geographical basis as possible. Recruitment shall be guided by the principle that the staff shall be kept to the minimum necessary for the proper discharge of the responsibilities of the Technical Secretariat.

51. The Director-General may, as appropriate, after consultation with the Executive Council, establish temporary working groups of scientific experts to provide recommendations on specific issues.

52. In the performance of their duties, the Director-General, the inspectors, the inspection assistants, and the members of the staff shall not seek or receive instructions from any Government or from any other source external to the Organization. They shall refrain from any action that might reflect adversely on their positions as international officers responsible only to the Organization. The Director-General shall assume responsibility for the activities of an inspection team.

53. Each State Party shall respect the exclusively international character of the responsibilities of the Director-General, the inspectors, the inspection assistants and the members of the staff and shall not seek to influence them in the discharge of their responsibilities.

E. PRIVILEGES AND IMMUNITIES

54. The Organization shall enjoy on the territory and in any other place under the jurisdiction or control of a State Party such legal capacity and such privileges and immunities as are necessary for the exercise of its functions.

55. Delegates of States Parties, together with their alternates and advisers, representatives of members elected to the Executive Council, together with their alternates and advisers, the Director-General, the inspectors, the inspection assistants and the members of the staff of the Organization shall enjoy such privileges and immunities as are necessary in the independent exercise of their functions in connection with the Organization.

56. The legal capacity, privileges and immunities referred to in this Article shall be defined in agreements between the Organization and the State Parties as well as in an agreement between the Organization and the State in which the Organization is seated. Such agreements shall be considered and approved in accordance with paragraph 26 (h) and (i).

57. Notwithstanding paragraphs 54 and 55, the privileges and immunities enjoyed by the Director-General, the inspectors, the inspection assistants, and the members of the staff of the Technical Secretariat during the conduct of verification activities shall be those set forth in the Protocol.

ARTICLE III NATIONAL IMPLEMENTATION MEASURES

1. Each State Party shall, in accordance with its constitutional processes, take any necessary measures to implement its obligations under this Treaty. In particular, it shall take any necessary measures:

(a) To prohibit natural and legal persons anywhere on its territory or in any other place under its jurisdiction as recognized by international law from undertaking any activity prohibited to a State Party under this Treaty;

(b) To prohibit natural and legal persons from undertaking any such activity anywhere under its control; and

(c) To prohibit, in conformity with international law, natural persons possessing its nationality from undertaking any such activity anywhere.

2. Each State Party shall cooperate with other States Parties and afford the appropriate form of legal assistance to facilitate the implementation of the obligations under paragraph 1.

3. Each State Party shall inform the Organization of the measures taken pursuant to this Article.

4. In order to fulfil its obligations under the Treaty, each State Party shall designate or set up a National Authority and shall so inform the Organization upon entry into force of the Treaty for it. The National Authority shall serve as the national focal point for liaison with the Organization and with other States Parties.

ARTICLE IV VERIFICATION

A. GENERAL PROVISIONS

1. In order to verify compliance with this Treaty, a verification regime shall be established consisting of the following elements:

- (a) An International Monitoring System;
- (b) Consultation and clarification;
- (c) On-site inspections; and
- (d) Confidence building measures.

At entry into force of this Treaty, the verification regime shall be capable of meeting the verification requirements of this Treaty.

2. Verification activities shall be based on objective information, shall be limited to the subject matter of this Treaty, and shall be carried out on the basis of full respect for the sovereignty of States Parties and in the least intrusive manner possible consistent with the effective and timely accomplishment of their objectives. Each State Party shall refrain from any abuse of the right of verification.

3. Each State Party undertakes in accordance with this Treaty to cooperate, through its National Authority established pursuant to Article III, paragraph 4, with the Organization and with other States Parties to facilitate the verification of compliance with this Treaty by *inter alia*:

(a) Establishing the necessary facilities to participate in these verification measures and establishing the necessary communication;

(b) Providing data obtained from national stations that are part of the International Monitoring System;

(c) Participating, as appropriate, in a consultation and clarification process;

(d) Permitting the conduct of on-site inspections; and

(e) Participating, as appropriate, in confidence-building measures.

4. All States Parties, irrespective of their technical and financial capabilities, shall enjoy the equal right of verification and assume the equal obligation to accept verification.

5. For the purposes of this Treaty, no State Party shall be precluded from using information obtained by national technical means of verification in a manner consistent with generally recognized principles of international law, including that of respect for the sovereignty of States.

6. Without prejudice to the right of States Parties to protect sensitive installations, activities or locations not related to this Treaty, States Parties shall not interfere with elements of the verification regime of this Treaty or with national technical means of verification operating in accordance with paragraph 5.

7. Each State Party shall have the right to take measures to protect sensitive installations and to prevent disclosure of confidential information and data not related to this Treaty.

8. Moreover, all necessary measures shall be taken to protect the confidentiality of any information related to civil and military activities and facilities obtained during verification activities.

9. Subject to paragraph 8, information obtained by the Organization through the verification regime established by this Treaty shall be made available to all States Parties in accordance with the relevant provisions of this Treaty and the Protocol.

10. The provisions of this Treaty shall not be interpreted as restricting the international exchange of data for scientific purposes.

11. Each State Party undertakes to cooperate with the Organization and with other States Parties in the improvement of the verification regime, and in the examination of the verification potential of additional monitoring technologies such as electromagnetic pulse monitoring or satellite monitoring, with a view to developing, when appropriate, specific measures to enhance the efficient and cost-effective verification of this Treaty. Such measures shall, when agreed, be incorporated in existing provisions in this Treaty, the Protocol or as additional sections of the Protocol, in accordance with Article VII, or,

if appropriate, be reflected in the operational manuals in accordance with Article II, paragraph 44.

12. The States Parties undertake to promote cooperation among themselves to facilitate and participate in the fullest possible exchange relating to technologies used in the verification of this Treaty in order to enable all States Parties to strengthen their national implementation of verification measures and to benefit from the application of such technologies for peaceful purposes.

13. The provisions of this Treaty shall be implemented in a manner which avoids hampering the economic and technological development of the States Parties for further development of the application of atomic energy for peaceful purposes.

Verification Responsibilities of the Technical Secretariat

14. In discharging its responsibilities in the area of verification specified in this Treaty and the Protocol, in cooperation with the States Parties the Technical Secretariat shall, for the purpose of this Treaty:

(a) Make arrangements to receive and distribute data and reporting products relevant to the verification of this Treaty in accordance with its provisions, and to maintain a global communications infrastructure appropriate to this task;

(b) Routinely through its International Data Centre, which shall in principle be the focal point within the Technical Secretariat for data storage and data processing:

(i) Receive and initiate requests for data from the International Monitoring System;

(ii) Receive data, as appropriate, resulting from the process of consultation and clarification, from on-site inspections, and from confidence-building measures; and

(iii) Receive other relevant data from States Parties and international organizations in accordance with this Treaty and the Protocol;

(c) Supervise, coordinate, and ensure the operation of the International Monitoring System and its component elements, and of the International Data Centre, in accordance with the relevant operational manuals;

(d) Routinely process, analyze and report on International Monitoring System data according to agreed procedures so as to permit the effective international verification of this Treaty and to contribute to the early resolution of compliance concerns;

(e) Make available all data, both raw and processed, and any reporting products, to all States Parties, each State Party taking responsibility for the use of International Monitoring System data in accordance with Article II, paragraph 7, and with paragraphs 8 and 13 of this Article;

(f) Provide to all States Parties equal, open, convenient and timely access to all stored data;

(g) Store all data, both raw and processed, and reporting products;

(h) Coordinate and facilitate requests for additional data from the International Monitoring System;

(i) Coordinate requests for additional data from one State Party to another State Party;

(j) Provide technical assistance in, and support for, the installation and operation of monitoring facilities and respective communication means, where such assistance and support are required by the State concerned;

(k) Make available to any State Party, upon its request, techniques utilized by the Technical Secretariat and its International Data Centre in compiling, storing, processing, analyzing and reporting on data from the verification regime; and

(l) Monitor, assess, and report on the overall performance of the International Monitoring System and of the International Data Centre.

15. The agreed procedures to be used by the Technical Secretariat in discharging the verification responsibilities referred to in paragraph 14 and detailed in the Protocol shall be elaborated in the relevant operational manuals.

B. THE INTERNATIONAL MONITORING SYSTEM

16. The International Monitoring System shall comprise facilities for seismological monitoring, radionuclide monitoring including certified laboratories, hydroacoustic monitoring, infrasound monitoring, and respective means of communication, and shall be supported by the International Data Centre of the Technical Secretariat.

17. The International Monitoring System shall be placed under the authority of the Technical Secretariat. All monitoring facilities of the International Monitoring System shall be owned and operated by the States hosting or otherwise taking responsibility for them in accordance with the Protocol.

18. Each State Party shall have the right to participate in the international exchange of data and to have access to all data made available to the International Data Centre. Each State Party shall cooperate with the International Data Centre through its National Authority.

Funding the International Monitoring System

19. For facilities incorporated into the International Monitoring System and specified in Tables 1-A, 2-A, 3 and 4 of Annex 1 to the Protocol, and for their functioning, to the extent that such facilities are agreed by the relevant State and the Organization to provide data to the International Data Centre in accordance with the technical requirements of the Protocol and relevant operational manuals, the Organization, as specified in agreements or arrangements pursuant to Part I, paragraph 4 of the Protocol, shall meet the costs of:

(a) Establishing any new facilities and upgrading existing facilities unless the State responsible for such facilities meets these costs itself;

(b) Operating and maintaining International Monitoring System facilities, including facility physical security if appropriate, and application of agreed data authentication procedures;

(c) Transmitting International Monitoring System data (raw or processed) to the International Data Centre by the most direct and cost effective means available, including, if necessary, via appropriate communications nodes, from monitoring stations, laboratories, analytical facilities or from national data centres; or such data (including samples where appropriate) to laboratory and analytical facilities from monitoring stations; and

(d) Analyzing samples on behalf of the Organization.

20. For auxiliary network seismic stations specified in Table 1-B of Annex 1 to the Protocol the Organization, as specified in agreements or arrangements pursuant to Part I, paragraph 4 of the Protocol, shall meet the costs only of:

(a) Transmitting data to the International Data Centre;

(b) Authenticating data from such stations;

(c) Upgrading stations to the required technical standard, unless the State responsible for such facilities meets these costs itself;

(d) If necessary, establishing new stations for the purposes of this Treaty where no appropriate facilities currently exist, unless the State responsible for such facilities meets these costs itself; and

(e) Any other costs related to the provision of data required by the Organization as specified in the relevant operational manuals.

21. The Organization shall also meet the cost of provision to each State Party of its requested selection from the standard range of International Data Centre reporting products and services, as specified in Part I, Section F of the Protocol. The cost of preparation and transmission of any additional data or products shall be met by the requesting State Party.

22. The agreements or, if appropriate, arrangements concluded with States Parties or States hosting or otherwise taking responsibility for facilities of the International Monitoring System shall contain provisions for meeting these costs. Such provisions may include modalities whereby a State Party meets any of the costs referred to in paragraphs 19 (a) and 20 (c) and (d) for facilities which it hosts or for which it is responsible, and is compensated by an appropriate reduction in its assessed financial contribution to the Organization. Such a reduction shall not exceed 50 percent of the annual assessed financial contribution of a State Party, but may be spread over successive years. A State Party may share such a reduction with another State Party by agreement or arrangement between themselves and with the concurrence of the Executive Council.

The agreements or arrangements referred to in this paragraph shall be approved in accordance with Article II, paragraphs 26 (h), and 38 (i).

Changes to the International Monitoring System

23. Any measures referred to in paragraph 11 affecting the International Monitoring System by means of addition or deletion of a monitoring technology shall, when agreed, be incorporated into this Treaty and the Protocol pursuant to Article VII, paragraphs 1 to 6.

24. The following changes to the International Monitoring System, subject to the agreement of those States directly affected, shall be regarded as matters of an administrative or technical nature pursuant to Article VII, paragraphs 7 and 8:

(a) Changes to the number of facilities specified in the Protocol for a given monitoring technology; and

(b) Changes to other details for particular facilities as reflected in the Tables of Annex 1 to the Protocol (including, *inter alia*, State responsible for the facility; location; name of facility; type of facility; and attribution of a facility between the primary and auxiliary seismic networks).

If the Executive Council recommends, pursuant to Article VII, paragraph 8 (d), that such changes be adopted, it shall as a rule also recommend pursuant to Article VII, paragraph 8 (g), that such changes enter into force upon notification by the Director-General of their approval.

25. The Director-General, in submitting to the Executive Council and States Parties information and evaluation in accordance with Article VII, paragraph 8 (b), shall include in the case of any proposal made pursuant to paragraph 24:

- (a) A technical evaluation of the proposal;
- (b) A statement on the administrative and financial impact of the proposal; and
- (c) A report on consultations with States directly affected by the proposal, including indication of their agreement.

Temporary Arrangements

26. In cases of significant or irretrievable breakdown of a monitoring facility specified in the Tables of Annex 1 to the Protocol, or in order to cover other temporary reductions of monitoring coverage, the Director-General shall, in consultation and agreement with those States directly affected, and with the approval of the Executive Council, initiate temporary arrangements of no more than one year's duration, renewable if necessary by agreement of the Executive Council and of the States directly affected for another year. Such arrangements shall not cause the number of operational facilities of the International Monitoring System to exceed the number specified for the relevant network; shall meet as far as possible the technical and operational requirements specified in the operational manual for the relevant network; and shall be conducted within the budget of the Organization. The Director-General shall furthermore take steps to rectify the situation and make proposals for its permanent resolution. The Director-General shall notify all States Parties of any decision taken pursuant to this paragraph.

Cooperating National Facilities

27. States Parties may also separately establish cooperative arrangements with the Organization, in order to make available to the International Data Centre supplementary data from national monitoring stations that are not formally part of the International Monitoring System.

28. Such cooperative arrangements may be established as follows:

(a) Upon request by a State Party, and at the expense of that State, the Technical Secretariat shall take the steps required to certify that a given monitoring facility meets the technical and operational requirements specified in the relevant operational manuals for an International Monitoring System facility, and make arrangements for the authentication of its data. Subject to the agreement of the Executive Council, the Technical Secretariat shall then formally designate such a facility as a cooperating national facility. The Technical Secretariat shall take the steps required to revalidate its certification as appropriate;

(b) The Technical Secretariat shall maintain a current list of cooperating national facilities and shall distribute it to all States Parties; and

(c) The International Data Centre shall call upon data from cooperating national facilities, if so requested by a State Party, for the purposes of facilitating consultation and clarification and the consideration of on-site inspection requests, data transmission costs being borne by that State Party.

The conditions under which supplementary data from such facilities are made available, and under which the International Data Centre may request further or expedited reporting, or clarifications, shall be elaborated in the operational manual for the respective monitoring network.

C. CONSULTATION AND CLARIFICATION

29. Without prejudice to the right of any State Party to request an on-site inspection, States Parties should, whenever possible, first make every effort to clarify and resolve,

among themselves or with or through the Organization, any matter which may cause concern about possible non-compliance with the basic obligations of this Treaty.

30. A State Party that receives a request pursuant to paragraph 29 directly from another State Party shall provide the clarification to the requesting State Party as soon as possible, but in any case no later than 48 hours after the request. The requesting and requested States Parties may keep the Executive Council and the Director-General informed of the request and the response.

31. A State Party shall have the right to request the Director-General to assist in clarifying any matter, which may cause concern about possible non-compliance with the basic obligations of this Treaty. The Director-General shall provide appropriate information in the possession of the Technical Secretariat relevant to such a concern. The Director-General shall inform the Executive Council of the request and of the information provided in response, if so requested by the requesting State Party.

32. A State Party shall have the right to request the Executive Council to obtain clarification from another State Party on any matter which may cause concern about possible non-compliance with the basic obligations of this Treaty. In such a case, the following shall apply:

(a) The Executive Council shall forward the request for clarification to the requested State Party through the Director-General no later than 24 hours after its receipt;

(b) The requested State Party shall provide the clarification to the Executive Council as soon as possible, but in any case no later than 48 hours after receipt of the request;

(c) The Executive Council shall take note of the clarification and forward it to the requesting State Party no later than 24 hours after its receipt;

(d) If the requesting State Party deems the clarification to be inadequate, it shall have the right to request the

Executive Council to obtain further clarification from the requested State Party.

The Executive Council shall inform without delay all other States Parties about any request for clarification pursuant to this paragraph as well as any response provided by the requested State Party.

33. If the requesting State Party considers the clarification obtained under paragraph 32 (d) to be unsatisfactory, it shall have the right to request a meeting of the Executive Council in which States Parties involved that are not members of the Executive Council shall be entitled to take part. At such a meeting, the Executive Council shall consider the matter and may recommend any measure in accordance with Article V.

D. ON-SITE INSPECTIONS

Request for an On-Site Inspection

34. Each State Party has the right to request an on-site inspection in accordance with the provisions of this Article and Part II of the Protocol in the territory or in any other place under the jurisdiction or control of any State Party, or in any area beyond the jurisdiction or control of any State.

35. The sole purpose of an on-site inspection shall be to clarify whether a nuclear weapon test explosion or any other nuclear explosion has been carried out in violation of Article I and, to the extent possible, to gather any facts which might assist in identifying any possible violator.

36. The requesting State Party shall be under the obligation to keep the on-site inspection request within the scope of this Treaty and to provide in the request

information in accordance with paragraph 37. The requesting State Party shall refrain from unfounded or abusive inspection requests.

37. The on-site inspection request shall be based on information collected by the International Monitoring System, on any relevant technical information obtained by national technical means of verification in a manner consistent with generally recognized principles of international law, or on a combination thereof. The request shall contain information pursuant to Part II, paragraph 41 of the Protocol.

38. The requesting State Party shall present the on-site inspection request to the Executive Council and at the same time to the Director-General for the latter to begin immediate processing.

Follow-up After Submission of an On-Site Inspection Request

39. The Executive Council shall begin its consideration immediately upon receipt of the on-site inspection request.

40. The Director-General, after receiving the on-site inspection request, shall acknowledge receipt of the request to the requesting State Party within two hours and communicate the request to the State Party sought to be inspected within six hours. The Director-General shall ascertain that the request meets the requirements specified in Part II, paragraph 41 of the Protocol, and, if necessary, shall assist the requesting State Party in filing the request accordingly, and shall communicate the request to the Executive Council and to all other States Parties within 24 hours.

41. When the on-site inspection request fulfils the requirements, the Technical Secretariat shall begin preparations for the on-site inspection without delay.

42. The Director-General, upon receipt of an on-site inspection request referring to an inspection area under the jurisdiction or control of a State Party, shall immediately seek clarification from the State Party sought to be inspected in order to clarify and resolve the concern raised in the request.

43. A State Party that receives a request for clarification pursuant to paragraph 42 shall provide the Director-General with explanations and with other relevant information available as soon as possible, but no later than 72 hours after receipt of the request for clarification.

44. The Director-General, before the Executive Council takes a decision on the on-site inspection request, shall transmit immediately to the Executive Council any additional information available from the International Monitoring System or provided by any State Party on the event specified in the request, including any clarification provided pursuant to paragraphs 42 and 43, as well as any other information from within the Technical Secretariat that the Director-General deems relevant or that is requested by the Executive Council.

45. Unless the requesting State Party considers the concern raised in the on-site inspection request to be resolved and withdraws the request, the Executive Council shall take a decision on the request in accordance with paragraph 46.

Executive Council Decisions

46. The Executive Council shall take a decision on the on-site inspection request no later than 96 hours after receipt of the request from the requesting State Party. The decision to approve the on-site inspection shall be made by at least 30 affirmative votes of members of the Executive Council. If the Executive Council does not approve the

inspection, preparations shall be stopped and no further action on the request shall be taken.

47. No later than 25 days after the approval of the on-site inspection in accordance with paragraph 46, the inspection team shall transmit to the Executive Council, through the Director-General, a progress inspection report. The continuation of the inspection shall be considered approved unless the Executive Council, no later than 72 hours after receipt of the progress inspection report, decides by a majority of all its members not to continue the inspection. If the Executive Council decides not to continue the inspection, the inspection shall be terminated, and the inspection team shall leave the inspection area and the territory of the inspected State Party as soon as possible in accordance with Part II, paragraphs 109 and 110 of the Protocol.

48. In the course of the on-site inspection, the inspection team may submit to the Executive Council, through the Director-General, a proposal to conduct drilling. The Executive Council shall take a decision on such a proposal no later than 72 hours after receipt of the proposal. The decision to approve drilling shall be made by a majority of all members of the Executive Council.

49. The inspection team may request the Executive Council, through the Director-General, to extend the inspection duration by a maximum of 70 days beyond the 60-day time-frame specified in Part II, paragraph 4 of the Protocol, if the inspection team considers such an extension essential to enable it to fulfil its mandate. The inspection team shall indicate in its request, which of the activities and techniques listed in Part II, paragraph 69 of the Protocol it intends to carry out during the extension period. The Executive Council shall take a decision on the extension request no later than 72 hours

after receipt of the request. The decision to approve an extension of the inspection duration shall be made by a majority of all members of the Executive Council.

50. Any time following the approval of the continuation of the on-site inspection in accordance with paragraph 47, the inspection team may submit to the Executive Council, through the Director-General, a recommendation to terminate the inspection. Such a recommendation shall be considered approved unless the Executive Council, no later than 72 hours after receipt of the recommendation, decides by a two-thirds majority of all its members not to approve the termination of the inspection. In case of termination of the inspection, the inspection team shall leave the inspection area and the territory of the inspected State Party as soon as possible in accordance with Part II, paragraphs 109 and 110 of the Protocol.

51. The requesting State Party and the State Party sought to be inspected may participate in the deliberations of the Executive Council on the on-site inspection request without voting. The requesting State Party and the inspected State Party may also participate without voting in any subsequent deliberations of the Executive Council related to the inspection.

52. The Director-General shall notify all States Parties within 24 hours about any decision by and reports, proposals, requests and recommendations to the Executive Council pursuant to paragraphs 46 to 50.

Follow-up after Executive Council Approval of an On-Site Inspection

53. An on-site inspection approved by the Executive Council shall be conducted without delay by an inspection team designated by the Director-General and in accordance with the provisions of this Treaty and the Protocol. The inspection team shall

arrive at the point of entry no later than six days following the receipt by the Executive Council of the on-site inspection request from the requesting State Party.

54. The Director-General shall issue an inspection mandate for the conduct of the on-site inspection. The inspection mandate shall contain the information specified in Part II, paragraph 42 of the Protocol.

55. The Director-General shall notify the inspected State Party of the inspection no less than 24 hours before the planned arrival of the inspection team at the point of entry, in accordance with Part II, paragraph 43 of the Protocol.

The Conduct of an On-Site Inspection

56. Each State Party shall permit the Organization to conduct an on-site inspection on its territory or at places under its jurisdiction or control in accordance with the provisions of this Treaty and the Protocol. However, no State Party shall have to accept simultaneous on-site inspections on its territory or at places under its jurisdiction or control.

57. In accordance with the provisions of this Treaty and the Protocol, the inspected State Party shall have:

(a) The right and the obligation to make every reasonable effort to demonstrate its compliance with this Treaty and, to this end, to enable the inspection team to fulfil its mandate;

(b) The right to take measures it deems necessary to protect national security interests and to prevent disclosure of confidential information not related to the purpose of the inspection;

(c) The obligation to provide access within the inspection area for the sole purpose of determining facts relevant to the purpose of the inspection, taking into account subparagraph (b) and any constitutional obligations it may have with regard to proprietary rights or searches and seizures;

(d) The obligation not to invoke this paragraph or Part II, paragraph 88 of the Protocol to conceal any violation of its obligations under Article I; and

(e) The obligation not to impede the ability of the inspection team to move within the inspection area and to carry out inspection activities in accordance with this Treaty and the Protocol.

Access, in the context of an on-site inspection, means both the physical access of the inspection team and the inspection equipment to, and the conduct of inspection activities within, the inspection area.

58. The on-site inspection shall be conducted in the least intrusive manner possible, consistent with the efficient and timely accomplishment of the inspection mandate, and in accordance with the procedures set forth in the Protocol. Wherever possible, the inspection team shall begin with the least intrusive procedures and then proceed to more intrusive procedures only as it deems necessary to collect sufficient information to clarify the concern about possible non-compliance with this Treaty. The inspectors shall seek only the information and data necessary for the purpose of the inspection and shall seek to minimize interference with normal operations of the inspected State Party.

59. The inspected State Party shall assist the inspection team throughout the on-site inspection and facilitate its task.

60. If the inspected State Party, acting in accordance with Part II, paragraphs 86 to 96 of the Protocol, restricts access within the inspection area, it shall make every reasonable effort in consultations with the inspection team to demonstrate through alternative means its compliance with this Treaty.

Observer

61. With regard to an observer, the following shall apply:

(a) The requesting State Party, subject to the agreement of the inspected State Party, may send a representative, who shall be a national either of the requesting State Party or of a third State Party, to observe the conduct of the on-site inspection;

(b) The inspected State Party shall notify its acceptance or non-acceptance of the proposed observer to the Director-General within 12 hours after approval of the on-site inspection by the Executive Council;

(c) In case of acceptance, the inspected State Party shall grant access to the observer in accordance with the Protocol;

(d) The inspected State Party shall, as a rule, accept the proposed observer, but if the inspected State Party exercises a refusal, that fact shall be recorded in the inspection report.

There shall be no more than three observers from an aggregate of requesting States Parties.

Reports of an On-Site Inspection

62. Inspection reports shall contain:

(a) A description of the activities conducted by the inspection team;

(b) The factual findings of the inspection team relevant to the purpose of the inspection;

(c) An account of the cooperation granted during the on-site inspection;

(d) A factual description of the extent of the access granted, including the alternative means provided to the team, during the on-site inspection; and

(e) Any other details relevant to the purpose of the inspection.

Differing observations made by inspectors may be attached to the report.

63. The Director-General shall make draft inspection reports available to the inspected State Party. The inspected State Party shall have the right to provide the Director-General within 48 hours with its comments and explanations, and to identify any information and data which, in its view, are not related to the purpose of the inspection and should not be circulated outside the Technical Secretariat. The Director-General shall consider the proposals for changes to the draft inspection report made by the inspected State Party and shall wherever possible incorporate them. The Director-General shall also annex the comments and explanations provided by the inspected State Party to the inspection report.

64. The Director-General shall promptly transmit the inspection report to the requesting State Party, the inspected State Party, the Executive Council and to all other States Parties. The Director-General shall further transmit promptly to the Executive Council and to all other States Parties any results of sample analysis in designated laboratories in accordance with Part II, paragraph 104 of the Protocol, relevant data from the International Monitoring System, the assessments of the requesting and inspected States Parties, as well as any other information that the Director-General deems relevant.

In the case of the progress inspection report referred to in paragraph 47, the Director-General shall transmit the report to the Executive Council within the time-frame specified in that paragraph.

65. The Executive Council, in accordance with its powers and functions, shall review the inspection report and any material provided pursuant to paragraph 64, and shall address any concerns as to:

- (a) Whether any non-compliance with this Treaty has occurred; and
- (b) Whether the right to request an on-site inspection has been abused.

66. If the Executive Council reaches the conclusion, in keeping with its powers and functions, that further action may be necessary with regard to paragraph 65; it shall take the appropriate measures in accordance with Article V.

Frivolous or Abusive On-Site Inspection Requests

67. If the Executive Council does not approve the on-site inspection on the basis that the on-site inspection request is frivolous or abusive, or if the inspection is terminated for the same reasons, the Executive Council shall consider and decide on whether to implement appropriate measures to redress the situation, including the following:

- (a) Requiring the requesting State Party to pay for the cost of any preparations made by the Technical Secretariat;
- (b) Suspending the right of the requesting State Party to request an on-site inspection for a period of time, as determined by the Executive Council; and
- (c) Suspending the right of the requesting State Party to serve on the Executive Council for a period of time.

E. CONFIDENCE-BUILDING MEASURES

68. In order to:

(a) Contribute to the timely resolution of any compliance concerns arising from possible misinterpretation of verification data relating to chemical explosions; and

(b) Assist in the calibration of the stations that are part of the component networks of the International Monitoring System, each State Party undertakes to cooperate with the Organization and with other States Parties in implementing relevant measures as set out in Part III of the Protocol.

ARTICLE V MEASURES TO REDRESS A SITUATION AND TO ENSURE COMPLIANCE, INCLUDING SANCTIONS

1. The Conference, taking into account, *inter alia*, the recommendations of the Executive Council, shall take the necessary measures, as set forth in paragraphs 2 and 3, to ensure compliance with this Treaty and to redress and remedy any situation which contravenes the provisions of this Treaty.

2. In cases where a State Party has been requested by the Conference or the Executive Council to redress a situation raising problems with regard to its compliance and fails to fulfil the request within the specified time, the Conference may, *inter alia*, decide to restrict or suspend the State Party from the exercise of its rights and privileges under this Treaty until the Conference decides otherwise.

3. In cases where damage to the object and purpose of this Treaty may result from non-compliance with the basic obligations of this Treaty, the Conference may recommend to States Parties collective measures which are in conformity with international law.

4. The Conference, or alternatively, if the case is urgent, the Executive Council, may bring the issue, including relevant information and conclusions, to the attention of the United Nations.

ARTICLE VI SETTLEMENT OF DISPUTES

1. Disputes that may arise concerning the application or the interpretation of this Treaty shall be settled in accordance with the relevant provisions of this Treaty and in conformity with the provisions of the Charter of the United Nations.

2. When a dispute arises between two or more States Parties, or between one or more States Parties and the Organization, relating to the application or interpretation of this Treaty, the parties concerned shall consult together with a view to the expeditious settlement of the dispute by negotiation or by other peaceful means of the parties' choice, including recourse to appropriate organs of this Treaty and, by mutual consent, referral to the International Court of Justice in conformity with the Statute of the Court. The parties involved shall keep the Executive Council informed of actions being taken.

3. The Executive Council may contribute to the settlement of a dispute that may arise concerning the application or interpretation of this Treaty by whatever means it deems appropriate, including offering its good offices, calling upon the States Parties to a dispute to seek a settlement through a process of their own choice, bringing the matter to the attention of the Conference and recommending a time-limit for any agreed procedure.

4. The Conference shall consider questions related to disputes raised by States Parties or brought to its attention by the Executive Council. The Conference shall, as it

finds necessary, establish, or entrust organs with tasks related to the settlement of these disputes in conformity with Article II, paragraph 26 (j).

5. The Conference and the Executive Council are separately empowered, subject to authorization from the General Assembly of the United Nations, to request the International Court of Justice to give an advisory opinion on any legal question arising within the scope of the activities of the Organization. An agreement between the Organization and the United Nations shall be concluded for this purpose in accordance with Article II, paragraph 38 (h).

6. This Article is without prejudice to Articles IV and V.

ARTICLE VII AMENDMENTS

1. At any time after the entry into force of this Treaty, any State Party may propose amendments to this Treaty, the Protocol, or the Annexes to the Protocol. Any State Party may also propose changes, in accordance with paragraph 7, to the Protocol or the Annexes thereto. Proposals for amendments shall be subject to the procedures in paragraphs 2 to 6. Proposals for changes, in accordance with paragraph 7, shall be subject to the procedures in paragraph 8.

2. The proposed amendment shall be considered and adopted only by an Amendment Conference.

3. Any proposal for an amendment shall be communicated to the Director-General, who shall circulate it to all States Parties and the Depositary and seek the views of the States Parties on whether an Amendment Conference should be convened to consider the

proposal. If a majority of the States Parties notify the Director-General no later than 30 days after its circulation that they support further consideration of the proposal, the Director-General shall convene an Amendment Conference to which all States Parties shall be invited.

4. The Amendment Conference shall be held immediately following a regular session of the Conference unless all States Parties that support the convening of an Amendment Conference request that it be held earlier. In no case shall an Amendment Conference be held less than 60 days after the circulation of the proposed amendment.

5. Amendments shall be adopted by the Amendment Conference by a positive vote of a majority of the States Parties with no State Party casting a negative vote.

6. Amendments shall enter into force for all States Parties 30 days after deposit of the instruments of ratification or acceptance by all those States Parties casting a positive vote at the Amendment Conference.

7. In order to ensure the viability and effectiveness of this Treaty, Parts I and III of the Protocol and Annexes 1 and 2 to the Protocol shall be subject to changes in accordance with paragraph 8, if the proposed changes are related only to matters of an administrative or technical nature. All other provisions of the Protocol and the Annexes thereto shall not be subject to changes in accordance with paragraph 8.

8. Proposed changes referred to in paragraph 7 shall be made in accordance with the following procedures:

(a) The text of the proposed changes shall be transmitted together with the necessary information to the Director-General. Additional information for the evaluation of the proposal may be provided by any State Party and the Director-General. The Director-General shall promptly communicate any such proposals and information to all States Parties, the Executive Council and the Depositary;

(b) No later than 60 days after its receipt, the Director-General shall evaluate the proposal to determine all its possible consequences for the provisions of this Treaty and its implementation and shall communicate any such information to all States Parties and the Executive Council;

(c) The Executive Council shall examine the proposal in the light of all information available to it, including whether the proposal fulfils the requirements of paragraph 7. No later than 90 days after its receipt, the Executive Council shall notify its recommendation, with appropriate explanations, to all States Parties for consideration. States Parties shall acknowledge receipt within 10 days;

(d) If the Executive Council recommends to all States Parties that the proposal be adopted, it shall be considered approved if no State Party objects to it within 90 days after receipt of the recommendation. If the Executive Council recommends that the proposal be rejected, it shall be considered rejected if no State Party objects to the rejection within 90 days after receipt of the recommendation;

(e) If a recommendation of the Executive Council does not meet with the acceptance required under sub-paragraph (d), a decision on the proposal, including whether it fulfils the requirements of paragraph 7, shall be taken as a matter of substance by the Conference at its next session;

(f) The Director-General shall notify all States Parties and the Depositary of any decision under this paragraph;

(g) Changes approved under this procedure shall enter into force for all States Parties 180 days after the date of notification by the Director-General of their approval unless another time period is recommended by the Executive Council or decided by the Conference.

ARTICLE VIII REVIEW OF THE TREATY

1. Unless otherwise decided by a majority of the States Parties, ten years after the entry into force of this Treaty a Conference of the States Parties shall be held to review the operation and effectiveness of this Treaty, with a view to assuring itself that the objectives and purposes in the Preamble and the provisions of the Treaty are being realized. Such review shall take into account any new scientific and technological developments relevant to this Treaty. On the basis of a request by any State Party, the Review Conference shall consider the possibility of permitting the conduct of underground nuclear explosions for peaceful purposes. If the Review Conference decides by consensus that such nuclear explosions may be permitted, it shall commence work without delay, with a view to recommending to States Parties an appropriate amendment to this Treaty that shall preclude any military benefits of such nuclear explosions. Any such proposed amendment shall be communicated to the Director-General by any State Party and shall be dealt with in accordance with the provisions of Article VII.

2. At intervals of ten years thereafter, further Review Conferences may be convened with the same objective, if the Conference so decides as a matter of procedure in the

preceding year. Such Conferences may be convened after an interval of less than ten years if so decided by the Conference as a matter of substance.

3. Normally, any Review Conference shall be held immediately following the regular annual session of the Conference provided for in Article II.

ARTICLE IX DURATION AND WITHDRAWAL

1. This Treaty shall be of unlimited duration.

2. Each State Party shall, in exercising its national sovereignty, have the right to withdraw from this Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests.

3. Withdrawal shall be effected by giving notice six months in advance to all other States Parties, the Executive Council, the Depositary, and the United Nations Security Council. Notice of withdrawal shall include a statement of the extraordinary event or events, which a State Party regards as jeopardizing its supreme interests.

ARTICLE X STATUS OF THE PROTOCOL AND THE ANNEXES

The Annexes to this Treaty, the Protocol, and the Annexes to the Protocol form an integral part of the Treaty. Any reference to this Treaty includes the Annexes to this Treaty, the Protocol and the Annexes to the Protocol.

ARTICLE XI SIGNATURE

This Treaty shall be open to all States for signature before its entry into force.

ARTICLE XII RATIFICATION

This Treaty shall be subject to ratification by States Signatories according to their respective constitutional processes.

ARTICLE XIII ACCESSION

Any State which does not sign this Treaty before its entry into force may accede to it at any time thereafter.

ARTICLE XIV ENTRY INTO FORCE

1. This Treaty shall enter into force 180 days after the date of deposit of the instruments of ratification by all States listed in Annex 2 to this Treaty, but in no case earlier than two years after its opening for signature.

2. If this Treaty has not entered into force three years after the date of the anniversary of its opening for signature, the Depositary shall convene a Conference of the States that have already deposited their instruments of ratification upon the request of a majority of those States. That Conference shall examine the extent to which the requirement set out in paragraph 1 has been met and shall consider and decide by consensus what measures consistent with international law may be undertaken to accelerate the ratification process in order to facilitate the early entry into force of this Treaty.

3. Unless otherwise decided by the Conference referred to in paragraph 2 or other such conferences, this process shall be repeated at subsequent anniversaries of the opening for signature of this Treaty, until its entry into force.

4. All States Signatories shall be invited to attend the Conference referred to in paragraph 2 and any subsequent conferences as referred to in paragraph 3, as observers.

5. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the 30th day following the date of deposit of their instruments of ratification or accession.

ARTICLE XV RESERVATIONS

The Articles of and the Annexes to this Treaty shall not be subject to reservations. The provisions of the Protocol to this Treaty and the Annexes to the Protocol shall not be subject to reservations incompatible with the object and purpose of this Treaty.

ARTICLE XVI DEPOSITARY

1. The Secretary-General of the United Nations shall be the Depositary of this Treaty and shall receive signatures, instruments of ratification and instruments of accession.

2. The Depositary shall promptly inform all States Signatories and acceding States of the date of each signature, the date of deposit of each instrument of ratification or accession, the date of the entry into force of this Treaty and of any amendments and changes thereto, and the receipt of other notices.

3. The Depositary shall send duly certified copies of this Treaty to the Governments of the States Signatories and acceding States.

4. This Treaty shall be registered by the Depositary pursuant to Article 102 of the Charter of the United Nations.

ARTICLE XVII AUTHENTIC TEXTS

This Treaty, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

ANNEX 1 TO THE TREATY
LIST OF STATES PURSUANT TO ARTICLE II, PARAGRAPH 28

Africa

Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libyan Arab Jamahiriya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome & Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Zaire, Zambia, Zimbabwe.

Eastern Europe

Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Moldova, Poland, Romania, Russian Federation, Slovakia, Slovenia, The former Yugoslav Republic of Macedonia, Ukraine, Yugoslavia.

Latin America and the Caribbean

Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela.

Middle East and South Asia

Afghanistan, Bahrain, Bangladesh, Bhutan, India, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Maldives, Nepal, Oman, Pakistan, Qatar, Saudi Arabia, Sri Lanka, Syrian Arab Republic, Tajikistan, Turkmenistan, United Arab Emirates, Uzbekistan, Yemen.

North America and Western Europe

Andorra, Austria, Belgium, Canada, Cyprus, Denmark, Finland, France, Germany, Greece, Holy See, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, Turkey, United Kingdom of Great Britain and Northern Ireland, United States of America.

South East Asia, the Pacific and the Far East

Australia, Brunei Darussalam, Cambodia, China, Cook Islands, Democratic People's Republic of Korea, Fiji, Indonesia, Japan, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Micronesia (Federated States of), Mongolia, Myanmar, Nauru, New Zealand, Niue, Palau, Papua New Guinea,

Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Thailand, Tonga, Tuvalu, Vanuatu, Viet Nam.

**ANNEX 2 TO THE TREATY
LIST OF STATES PURSUANT TO ARTICLE XIV**

List of States members of the Conference on Disarmament as at 18 June 1996 which formally participated in the work of the 1996 session of the Conference and which appear in Table 1 of the International Atomic Energy Agency's April 1996 edition of "Nuclear Power Reactors in the World", and of States members of the Conference on Disarmament as at 18 June 1996 which formally participated in the work of the 1996 session of the Conference and which appear in Table 1 of the International Atomic Energy Agency's December 1995 edition of "Nuclear Research Reactors in the World": Algeria, Argentina, Australia, Austria, Bangladesh, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Democratic People's Republic of Korea, Egypt, Finland, France, Germany, Hungary, India, Indonesia, Iran (Islamic Republic of), Israel, Italy, Japan, Mexico, Netherlands, Norway, Pakistan, Peru, Poland, Romania, Republic of Korea, Russian Federation, Slovakia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Viet Nam, Zaire.

APPENDIX H

APPENDIX H: United Nations Convention On The Law Of The Sea, Part II: Territorial Sea And Contiguous Zone

SECTION 1. GENERAL PROVISIONS

Article 2

Legal status of the territorial sea, of the air space over the territorial sea and of its bed and subsoil

The sovereignty of a coastal State extends, beyond its land territory and internal waters and, in the case of an archipelagic State, its archipelagic waters, to an adjacent belt of sea, described as the territorial sea.

This sovereignty extends to the air space over the territorial sea as well as to its bed and subsoil.

The sovereignty over the territorial sea is exercised subject to this Convention and to other rules of international law.

SECTION 2. LIMITS OF THE TERRITORIAL SEA

Article 3

Breadth of the territorial sea Every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention.

Article 4

Outer limit of the territorial sea The outer limit of the territorial sea is the line every point of which is at a distance from the nearest point of the baseline equal to the breadth of the territorial sea.

Article 5

Normal baseline Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State.

Article 6

Reefs In the case of islands situated on atolls or of islands having fringing reefs, the baseline for measuring the breadth of the territorial sea is the seaward low-water line of the reef, as shown by the appropriate symbol on charts officially recognized by the coastal State.

Article 7

Straight baselines

In localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, the method of straight baselines joining appropriate points may be employed in drawing the baseline from which the breadth of the territorial sea is measured.

Where because of the presence of a delta and other natural conditions the coastline is highly unstable, the appropriate points may be selected along the furthest seaward extent of the low-water line and, notwithstanding subsequent regression of the low-water line, the straight baselines shall remain effective until changed by the coastal State in accordance with this Convention.

The drawing of straight baselines must not depart to any appreciable extent from the general direction of the coast, and the sea areas lying within the lines must be sufficiently closely linked to the land domain to be subject to the regime of internal waters.

Straight baselines shall not be drawn to and from low-tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them or except in instances where the drawing of baselines to and from such elevations has received general international recognition.

Where the method of straight baselines is applicable under paragraph 1, account may be taken, in determining particular baselines, of economic interests peculiar to the region concerned, the reality, and the importance of which are clearly evidenced by long usage.

The system of straight baselines may not be applied by a State in such a manner as to cut off the territorial sea of another State from the high seas or an exclusive economic zone.

Article 8

Internal waters

Except as provided in Part IV, waters on the landward side of the baseline of the territorial sea form part of the internal waters of the State.

Where the establishment of a straight baseline in accordance with the method set forth in article 7 has the effect of enclosing as internal waters areas which had not previously been considered as such, a right of innocent passage as provided in this Convention shall exist in those waters.

Article 9

Mouths of rivers If a river flows directly into the sea, the baseline shall be a straight line across the mouth of the river between points on the low-water line of its banks.

Article 10

Bays.

This article relates only to bays the coasts of which belong to a single State.

For the purposes of this Convention, a bay is a well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain land-locked waters and constitute more than a mere curvature of the coast. An indentation shall not, however, be regarded as a bay unless its area is as large as, or larger than, that of the semi-circle whose diameter is a line drawn across the mouth of that indentation.

For the purpose of measurement, the area of an indentation is that lying between the low-water mark around the shore of the indentation and a line joining the low-water mark of its natural entrance points. Where, because of the presence of islands, an indentation has more than one mouth, the semi-circle shall be drawn on a line as long as the sum total of the lengths of the lines across the different mouths. Islands within an indentation shall be included as if they were part of the water area of the indentation.

If the distance between the low-water marks of the natural entrance points of a bay does not exceed 24 nautical miles, a closing line may be drawn between these two low-water marks, and the waters enclosed thereby shall be considered as internal waters.

Where the distance between the low-water marks of the natural entrance points of a bay exceeds 24 nautical miles, a straight baseline of 24 nautical miles shall be drawn within the bay in such a manner as to enclose the maximum area of water that is possible with a line of that length.

The foregoing provisions do not apply to so-called "historic" bays, or in any case where the system of straight baselines provided for in article 7 is applied.

Article 11

Ports For the purpose of delimiting the territorial sea, the outermost permanent harbour works which form an integral part of the harbour system are regarded as forming part of the coast. Offshore installations and artificial islands shall not be considered as permanent harbour works.

Article 12

Roadsteads

Roadsteads, which are normally used for the loading, unloading and anchoring of ships, and which would otherwise be situated wholly or partly outside the outer limit of the territorial sea, are included in the territorial sea.

Article 13

Low-tide elevations

A low-tide elevation is a naturally formed area of land, which is surrounded by and above water at low tide but submerged at high tide. Where a low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the mainland or an island, the low-water line on that elevation may be used as the baseline for measuring the breadth of the territorial sea.

Where a low-tide elevation is wholly situated at a distance exceeding the breadth of the territorial sea from the mainland or an island, it has no territorial sea of its own.

Article 14

Combination of methods for determining baselines the coastal State may determine baselines in turn by any of the methods provided for in the foregoing articles to suit different conditions.

Article 15

Delimitation of the territorial sea between States with opposite or adjacent coasts
Where the coasts of two States are opposite or adjacent to each other, neither of the two States is entitled, failing agreement between them to the contrary, to extend its territorial sea beyond the median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial seas of each of the two States is measured. The above provision does not apply, however, where it is necessary by reason of historic title or other special circumstances to delimit the territorial seas of the two States in a way, which is at variance therewith.

Article 16

Charts and lists of geographical co-ordinates

The baselines for measuring the breadth of the territorial sea determined in accordance with articles 7, 9 and 10, or the limits derived therefrom, and the lines of delimitation drawn in accordance with articles 12 and 15 shall be shown on charts of a scale or scales adequate for ascertaining their position. Alternatively, a list of geographical co-ordinates of points, specifying the geodetic datum, may be substituted.

The coastal State shall give due publicity to such charts or lists of geographical co-ordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.

SECTION 3. INNOCENT PASSAGE IN THE TERRITORIAL SEA
SUBSECTION A. RULES APPLICABLE TO ALL SHIPS

Article 17

Right of innocent passage Subject to this Convention, ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea.

Article 18

Meaning of passage

Passage means navigation through the territorial sea for the purpose of: (a) traversing that sea without entering internal waters or calling at a roadstead or port facility outside internal waters; or (b) proceeding to or from internal waters or a call at such roadstead or port facility.

Passage shall be continuous and expeditious. However, passage includes stopping and anchoring, but only in so far as the same are incidental to ordinary navigation or are rendered necessary by force majeure or distress or for the purpose of rendering assistance to persons, ships or aircraft in danger or distress.

Article 19

Meaning of innocent passage

Passage is innocent so long as it is not prejudicial to the peace, good order, or security of the coastal State. Such passage shall take place in conformity with this Convention and with other rules of international law.

Passage of a foreign ship shall be considered to be prejudicial to the peace, good order or security of the coastal State if in the territorial sea it engages in any of the following activities: (a) any threat or use of force against the sovereignty, territorial integrity or political independence of the coastal State, or in any other manner in violation of the principles of international law embodied in the Charter of the United

Nations; (b) any exercise or practice with weapons of any kind; (c) any act aimed at collecting information to the prejudice of the defence or security of the coastal State; (d) any act of propaganda aimed at affecting the defence or security of the coastal State; (e) the launching, landing or taking on board of any aircraft; (f) the launching, landing or taking on board of any military device; (g) the loading or unloading of any commodity, currency or person contrary to the customs, fiscal, immigration or sanitary laws and regulations of the coastal State; (h) any act of willful and serious pollution contrary to this Convention; (i) any fishing activities; (j) the carrying out of research or survey activities; (k) any act aimed at interfering with any systems of communication or any other facilities or installations of the coastal State; (l) any other activity not having a direct bearing on passage.

Article 20

Submarines and other underwater vehicles in the territorial sea, submarines and other underwater vehicles are required to navigate on the surface and to show their flag.

Article 21

Laws and regulations of the coastal State relating to innocent passage

The coastal State may adopt laws and regulations, in conformity with the provisions of this Convention and other rules of international law, relating to innocent passage through the territorial sea, in respect of all or any of the following: (a) the safety of navigation and the regulation of maritime traffic; (b) the protection of navigational aids and facilities and other facilities or installations; (c) the protection of cables and pipelines; (d) the conservation of the living resources of the sea; (e) the prevention of infringement of the fisheries laws and regulations of the coastal State; (f) the preservation

of the environment of the coastal State and the prevention, reduction and control of pollution thereof; (g) marine scientific research and hydrographic surveys; (h) the prevention of infringement of the customs, fiscal, immigration or sanitary laws and regulations of the coastal State.

Such laws and regulations shall not apply to the design, construction, manning, or equipment of foreign ships unless they are giving effect to generally accepted international rules or standards.

The coastal State shall give due publicity to all such laws and regulations.

Foreign ships exercising the right of innocent passage through the territorial sea shall comply with all such laws and regulations and all generally accepted international regulations relating to the prevention of collisions at sea.

Article 22

Sea lanes and traffic separation schemes in the territorial sea

The coastal State may, where necessary having regard to the safety of navigation, require foreign ships exercising the right of innocent passage through its territorial sea to use such sea lanes and traffic separation schemes as it may designate or prescribe for the regulation of the passage of ships.

In particular, tankers, nuclear-powered ships and ships carrying nuclear or other inherently dangerous or noxious substances or materials may be required to confine their passage to such sea lanes.

In the designation of sea lanes and the prescription of traffic separation schemes under this article, the coastal State shall take into account: (a) the recommendations of the competent international organization; (b) any channels customarily used for international

navigation; (c) the special characteristics of particular ships and channels; and (d) the density of traffic.

The coastal State shall clearly indicate such sea-lanes and traffic separation schemes on charts to which due publicity shall be given.

Article 23

Foreign nuclear-powered ships and ships carrying nuclear or other inherently dangerous or noxious substances Foreign nuclear-powered ships and ships carrying nuclear or other inherently dangerous or noxious substances shall, when exercising the right of innocent passage through the territorial sea, carry documents and observe special precautionary measures established for such ships by international agreements.

Article 24

Duties of the coastal State

The coastal State shall not hamper the innocent passage of foreign ships through the territorial sea except in accordance with this Convention. In particular, in the application of this Convention or of any laws or regulations adopted in conformity with this Convention, the coastal State shall not: (a) impose requirements on foreign ships which have the practical effect of denying or impairing the right of innocent passage; or (b) discriminate in form or in fact against the ships of any State or against ships carrying cargoes to, from or on behalf of any State.

The coastal State shall give appropriate publicity to any danger to navigation, of which it has knowledge, within its territorial sea.

Article 25

Rights of protection of the coastal State

The coastal State may take the necessary steps in its territorial sea to prevent passage, which is not innocent.

In the case of ships proceeding to internal waters or a call at a port facility outside internal waters, the coastal State also has the right to take the necessary steps to prevent any breach of the conditions to which admission of those ships to internal waters or such a call is subject.

The coastal State may, without discrimination in form or in fact among foreign ships, suspend temporarily in specified areas of its territorial sea the innocent passage of foreign ships if such suspension is essential for the protection of its security, including weapons exercises. Such suspension shall take effect only after having been duly published.

Article 26

Charges, which may be levied upon foreign ships

No charge may be levied upon foreign ships by reason only of their passage through the territorial sea.

Charges may be levied upon a foreign ship passing through the territorial sea as payment only for specific services rendered to the ship. These charges shall be levied without discrimination.

SUBSECTION B. RULES APPLICABLE TO MERCHANT SHIPS AND GOVERNMENT SHIPS OPERATED FOR COMMERCIAL PURPOSES

Article 27

Criminal jurisdiction on board a foreign ship

The criminal jurisdiction of the coastal State should not be exercised on board a foreign ship passing through the territorial sea to arrest any person or to conduct any investigation in connection with any crime committed on board the ship during its

passage, save only in the following cases: (a) if the consequences of the crime extend to the coastal State; (b) if the crime is of a kind to disturb the peace of the country or the good order of the territorial sea; (c) if the assistance of the local authorities has been requested by the master of the ship or by a diplomatic agent or consular officer of the flag State; or (d) if such measures are necessary for the suppression of illicit traffic in narcotic drugs or psychotropic substances.

The above provisions do not affect the right of the coastal State to take any steps authorized by its laws for the purpose of an arrest or investigation on board a foreign ship passing through the territorial sea after leaving internal waters.

In the cases provided for in paragraphs 1 and 2, the coastal State shall, if the master so requests, notify a diplomatic agent or consular officer of the flag State before taking any steps, and shall facilitate contact between such agent or officer and the ship's crew. In cases of emergency this notification may be communicated while the measures are being taken.

In considering whether or in what manner an arrest should be made, the local authorities shall have due regard to the interests of navigation.

Except as provided in Part XII or with respect to violations of laws and regulations adopted in accordance with Part V, the coastal State may not take any steps on board a foreign ship passing through the territorial sea to arrest any person or to conduct any investigation in connection with any crime committed before the ship entered the territorial sea, if the ship, proceeding from a foreign port, is only passing through the territorial sea without entering internal waters.

Article 28

Civil jurisdiction in relation to foreign ships

The coastal State should not stop or divert a foreign ship passing through the territorial sea for the purpose of exercising civil jurisdiction in relation to a person on board the ship.

The coastal State may not levy execution against or arrest the ship for the purpose of any civil proceedings, save only in respect of obligations or liabilities assumed or incurred by the ship itself in the course or for the purpose of its voyage through the waters of the coastal State.

Paragraph 2 is without prejudice to the right of the coastal State, in accordance with its laws, to levy execution against or to arrest, for the purpose of any civil proceedings, a foreign ship lying in the territorial sea, 99 passing through the territorial sea after leaving internal waters.

SUBSECTION C. RULES APPLICABLE TO WARSHIPS AND OTHER GOVERNMENT SHIPS OPERATED FOR NON-COMMERCIAL PURPOSES

Article 29

Definition of warships For the purposes of this Convention, "warship" means a ship belonging to the armed forces of a State bearing the external marks distinguishing such ships of its nationality, under the command of an officer duly commissioned by the government of the State and whose name appears in the appropriate service list or its equivalent, and manned by a crew which is under regular armed forces discipline.

Article 30

Non-compliance by warships with the laws and regulations of the coastal State If any warship does not comply with the laws and regulations of the coastal State concerning

passage through the territorial sea and disregards any request for compliance therewith which is made to it, the coastal State may require it to leave the territorial sea immediately.

Article 31

Responsibility of the flag State for damage caused by a warship or other government ship operated for non-commercial purposes The flag State shall bear international responsibility for any loss or damage to the coastal State resulting from the non-compliance by a warship or other government ship operated for non-commercial purposes with the laws and regulations of the coastal State concerning passage through the territorial sea or with the provisions of this Convention or other rules of international law.

Article 32

Immunities of warships and other government ships operated for non-commercial purposes With such exceptions as are contained in subsection A and in articles 30 and 31, nothing in this Convention affects the immunities of warships and other government ships operated for non-commercial purposes.

SECTION 4. CONTIGUOUS ZONE

Article 33

Contiguous zone

In a zone contiguous to its territorial sea, described as the contiguous zone, the coastal State may exercise the control necessary to: (a) prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or

territorial sea; (b) punish infringement of the above laws and regulations committed within its territory or territorial sea.

The contiguous zone may not extend beyond 24 nautical miles from the baselines from which the breadth of the territorial sea is measured.

Notes

¹ A National Security Strategy for a New Century, The White House, December 1999. PP. 5-27. The National Security Strategy addresses these three instruments of power and the areas in which they are utilized through out the document. Key to concepts of public diplomacy, arms control, weapons of mass destruction (WMD), terrorists, International Law Enforcement, promoting trade, and building strong financial coordination are all emphasized as uses of the instruments of power which are used to work our national interests.

² Treaty on Principles Governing the activities of States in the exploration and Use of Outer Space, Including the Moon and other celestial Bodies (referenced from this point as the Outer space Treaty or OST) January 27, 1967; 18 U.S.T. 2410, T.I.A.S. 6347, 610 U.N.T.S. 205 effective October 25, 1967. The OST is included in the paper as Appendix A as it is the cornerstone of international usage of space, international law on space, and the point of origin for many space treaties.

³ Supra note 2, Introduction to OST.

⁴ Army Space Reference Text, under revision, Internet URL: http://www.fas.org/spp/military/docops/army/ref_text/index.html#CH1. As always the army leads the way with detailed description of doctrine and thought on space. This covers Eisenhower to the first Bush administration.

⁵ Treaty Banning Nuclear Weapons Testing in the Atmosphere, in Outer Space and Under Water, August 5, 1963, 14 U.S.T. 1313; T.I.A.S. 5443; 480 U.N.T.S. 45 Effective October 10, 1963.

⁶ Comprehensive Test Ban Treaty, URL: <http://www.clw.org/pub/clw/coalition/ctbindex.htm>. This URL contains information on the comprehensive test ban treaty. I did not include the treaty in this paper as an appendix. The US has not ratified it and it remains heavily debated at every level. 160 states have signed the treaty; however, of those 160 States, 44 have not ratified it to include the US, Great Britain, China, and the Russian federation. Appendix G contains the actual treaty.

⁷ Treaty between the United States of America and The Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems (referenced from this point on as the ABM Treaty) May 26, 1972. 23 U.S.T. 3435; T.I.A.S. 7503 Effective October 3, 1972. The ABM is included in the paper as appendix C.

⁸ From the Baker article on the heritage foundation web site, the Rumsfeld Commission in 1998 in conjunction with the Heritage Commission determined the treaty

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was dead as stated here “Legally, the ABM Treaty is dead. An effective national missile defense system cannot be obtained if the restrictions of the 1972 Anti- Ballistic Missile (ABM) Treaty with the Soviet Union are maintained. The Clinton Administration continued to honor the ABM Treaty despite the fact its treaty partner no longer exists. Congress safely can ignore the ABM Treaty because it no longer is legally binding on the United States. This is the conclusion of a comprehensive study of relevant U.S. and international law done for The Heritage Foundation by the law firm Hunton & Williams earlier this year”.

⁹ Ibid

¹⁰ Ibid

¹¹ Harden, Amy, Unpublished Manuscript-ACSC paper, Air University, Maxwell AFB. “Anti ballistic Missile Treaty: Is it still relevant? A primer on the systems and issues”. 1999.

¹² Supra note 7. Article XV of the ABM treaty

¹³ Convention on the International Liability for Damage Caused by Space Objects, March 29, 1972. 24 U.S.T 2389, T.I.A.S. 7762. Basically the Soviet satellite met all the criteria for a space object damaging another nations territory.

¹⁴ Department of External Affairs, Canada: Claim against the Union of Soviet Socialists Republics for Damage Caused by Soviet COSMOS 954, N0. FLA-268, Ottawa, Canada. This Canadian memo covers the events and claims associated with the COMOS 954 nuclear powered satellite leaving orbit and crashing in Canada on January 24, 1978.

¹⁵ The Agreement on the Rescue and Return of Astronauts. 3 December 1968. 19 U.S.T. 7570, T.I.A.S. 6599. The rescue agreement is Appendix E to this paper.

¹⁶ Supra note 2. Article V of the OST.

¹⁷ Cohen, Department of Defense Space Policy memorandum dated July 9, 1999, This delineates the space policy for the Department of Defense. URL: <http://www.au.af.mil/au/awc/awcgate/spc-doct.htm>. This policy memorandum re-enforced the 1996 presidential policy directive and update changes since that update.

¹⁸ Clinton, Bill. PPD/NSC 49, September 19, 1996. URL: <http://sun00781.dn.net/spp/military/docops/national/nstc-8.htm>. The Clinton administrations core policy on space. This becomes the foundation of the Cohen DoD memo of 9 Jul 99 and the guidance that the services implement. Refer to appendix B for previous presidents’ policies.

¹⁹ Air Force Doctrine Center, AFDD 2-2, Maxwell AFB, dated 23 Aug 1998. The AFDD 2-2 is currently under revision. It is the AF implementation of the DoD memorandum and the PPD.

²⁰ Supra note 19

²¹ Supra note 19

²² Supra note 19

²³ Supra note 19

²⁴ Supra note 19

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²⁵ Restatement of the Law (Second), Foreign Relations Law of the United States, Sections 17, 18, 30, 31, 33, and 34 (1965). These are the internationally accepted jurisdictional principles.

²⁶ The National Interest, Winter 2000/01 vol. 62 p 42-43. "The Rocky Shoals of International Laws", David B. Rivkin, Jr, and Lee A. Casey Shrub Oaks, NY.

²⁷ "Maritime Law," Microsoft® Encarta® Online Encyclopedia 2000 <http://encarta.msn.com> © 1997-2000 Microsoft Corporation. All rights reserved.

²⁸ "Sovereignty," Microsoft® Encarta® Online Encyclopedia 2000 <http://encarta.msn.com> © 1997-2000 Microsoft Corporation. All rights reserved.

²⁹ Whitman Vol. 4, Digest of International Law, p. 389. Discusses W.W.I zones.

³⁰ Ibid. p. 389. Discusses W.W.II zones.

³¹ McDougal and Schlie, "Hydrogen Bomb Tests in Prospective," Yale Law Journal, p. 669.

³² "No Fly Zone" http://www.pbs.org/newshour/bb/middle_east/july-dec98/iraq_12-31.html

³³ Article 60, UN Convention on the Law of the Sea. URL: <http://www.un.org/law/ilc/texts/tseafr.htm>.

³⁴ McDougal and Schlie, "Hydrogen Bomb Tests in Prospective," Yale Law Journal, p. 684.

³⁵ Title 14--Aeronautics and Space, Chapter I--Federal Aviation Administration, Department Of Transportation, Part 99--Security Control Of Air Traffic, URL: http://www.gpo.gov/nara/cfr/waisidx_99/14cfr99_99.html, In a nutshell, this is the Regulations that explains the handling of Aircraft and the procedures as they enter the US Air Defense Identification Zone.

³⁶ Supra note 34

³⁷ In 1953, when Sputnik flew over the US responded to a space race and did not act aggressively as far as attempts to deny the ability to fly over. This may have a bit to do with Eisenhower already understanding the importance of space based intelligence like the U-2s and the future of spy satellites.

³⁸ Karl Cristol, Modern Law of Outer space, p.435-520. Cristol discusses everything from inputs from numerous nations to many of the attempts by non-space nations to get a part of the action.

³⁹ Article 19 of the Convention on the Territorial Sea and the Contiguous Zone, 1958 15 U.S.T. 1606 T.I.A.S. 5339. Url: <http://www.un.org/law/ilc/texts/tseafr.htm>. The rights of nation to excerpt sovereignty over ships in their territories that have committed crimes against that state. See appendix H for the complete section of the treaty.

⁴⁰ Encyclopedia Britannica, on-line version URL: <http://www.britannica.com/seo/p/pueblo-incident/> Here is the complete encyclopedia description of the incident:

"Capture of the USS "Pueblo," a Navy intelligence ship, and its 83 crewmen by North Korean patrol boats off the coast of North Korea on Jan. 23, 1968. The United States, maintaining that the "Pueblo" had been in international waters, began a military buildup in the area. It also initiated negotiations that resulted in an agreement that secured the

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release of the 82-surviving crewmen (one died from wounds suffered during the capture) on Dec. 23, 1968. The agreement allowed the United States to publicly disavow the confession the crew had signed, admitting the ship's intrusion, apologizing, pledging to cease all future action, and acknowledging the truth of confessions obtained during captivity. A naval inquiry into these confessions and the actions of Comdr. Lloyd M. Bucher produced no apparent disciplinary action. “

⁴¹ Federation of American Scientists. Gulf of Sidra URL: <http://www.fas.org/man/dod-101/ops/sidra.htm>. Here is a brief synopsis of the incident from the FAS site:

“In 1973 Libya claimed the Gulf of Sidra to be within Libyan territorial waters by drawing a straight line between a point near Benghazi and the western headland of the gulf at Misratah. This claim was not generally accepted, although only the United States presented a direct challenge by declaring that its ships would continue to regard all areas beyond a distance of 12 nautical miles from the coast as international waters. In response the President authorized Naval exercises in the Gulf of Sidra to conduct Freedom of Navigation (FON) operations. On several occasions, Libyan fighter planes harassed United States planes from carriers maneuvering in the area.

When the United States Sixth Fleet began exercises in August 1981, Libyan fighter planes were assembled from elsewhere in the country to fly patrols near the American ships. On August 19, two Su-22 fighter-bombers were intercepted by two F-14 Tomcat fighters from the aircraft carrier Nimitz. While trying to escort the Libyans out of the exercise area, one of the American planes was the target of an air-to-air Atoll missile but was able to evade it. Both Libyan planes were then shot down with Sidewinder missiles launched by the Tomcats. The two Libyan pilots managed to eject and were rescued from the sea. The ease with which the American planes disposed of their attackers demonstrated that the earlier generation Su-22 and its Atoll missile could not prevail against more sophisticated United States equipment.”

⁴² The USN in its duties as a sea power has always endorsed the right of innocent passage. In conjunction with the Convention on the Territorial Sea and the Contiguous Zone, 1958, Section III. Right of Innocent Passage, article 14-17. See appendix H for the full write up on the Territorial Sea and Contiguous Zones.

Subsection A. Rules applicable to all ships

Article 14

1. Subject to the provisions of these articles, ships of all States, whether coastal or not, shall enjoy the right of innocent passage through the territorial sea.

2. Passage means navigation through the territorial sea for the purpose either of traversing that sea without entering internal waters, or of proceeding to internal waters or of making for the high seas from internal waters.

3. Passage includes stopping and anchoring, but only in so far as the same are incidental to ordinary navigation or are rendered necessary by force majeure or by distress.

4. Passage is innocent so long as it is not prejudicial to the peace, good order, or security of the coastal State. Such passage shall take place in conformity with these articles and with other rules of international law.

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5. Passage of foreign fishing vessels shall not be considered innocent if they do not observe such laws and regulations as the coastal State may make and publish in order to prevent these vessels from fishing in the territorial sea.

6. Submarines are required to navigate on the surface and to show their flag. URL: <http://www.un.org/law/ilc/texts/tseafra.htm>

⁴³ Supra note 2, Introduction and Article XI

⁴⁴ Supra note 2 Article IV

⁴⁵ Supra note 2 Introduction Article III, Article IV

⁴⁶ Supra note 5

⁴⁷ Supra note 11

⁴⁸ Supra note 2, Introduction

⁴⁹ Charter of the United Nations, TBS. 993; 3 Bevins 1153, June 1945, (effective date is October 24, 1945.)

⁵⁰ Ibid.

⁵¹ Ibid Article 2(4) of the UN Charter

⁵² Supra note 2

⁵³ Space is the medium of the satellites, which are used by US forces to send data and information worldwide. Space in essence could be considered the enablers' enabler.

⁵⁴ Supra note 1.

⁵⁵ Supra note 49

⁵⁶ Supra note 13

⁵⁷ Supra note 49

⁵⁸ The United States has made it so any law applicable on sovereign soil is also applicable on US space based assets.

⁵⁹ Uniform Code of Military Justice, 10 U.S.C. 8801-940.

⁶⁰ Supra note 11

⁶¹ Supra note 49

⁶² Chairman Joint chiefs of Staff guidance in JV2020, p2

⁶³ "On Space-Power Separatism," Maj Shawn P. Rife, USAF, Spring 1999 *Airpower Journal*. Maj Rife concludes with:

"Even if some of the conclusions drawn from these games should be obvious axioms to advocates of aerospace power, the Air Force, as the custodian of the nation's military-space experience and expertise, should seize and hold the lead in the creation and implementation of military-space strategy in the joint environment. To do that, we should collectively embrace our identity as a US *Aerospace* Force, in both name and function, sooner rather than later"

⁶⁴ Unpublished manuscript *Space Superiority the Joint Way*, by Lt Col D. J. Miller, USAF, AWC. 1999-2000. He analyzes the various options on space asset control. His main premise is a Joint Forces Space Component Commander and a "professional" space force. His article researches the various options and then discounts them for the final one of a JFSCC. Excellent baseline to study the options even if I don't concur with his final findings, his paper is a good source for review.

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⁶⁵ 2001 Rumsfeld II space report--Covers a lot of ground on proposed changes to the way the DoD and nation handles space. Whole report is available at <http://www.space.gov/commission/report.htm>

⁶⁶ Ibid.

⁶⁷ Supra note 63

⁶⁸ Supra note 63

⁶⁹ Joint Forces Capabilities Vol. 7 Course Book, p170-171 (Jan 2001)

⁷⁰ Supra note 64

⁷¹ Ibid.

⁷² Ibid.

⁷³ This thought was gleamed from the ACSC schoolhouse briefing from Joint Forces Space block on AOC operations with a space cell.

⁷⁴ Army Space Reference Text, under revision ,
InternetURL:http://www.fas.org/spp/military/docops/army/ref_text/index.html#CH1

Glossary

ABM	Anti Ballistic Missile
ACSC	Air Command and Staff College
ADIZ	Air Defense Identification Zone
AFDD	Air Force Doctrine Document
AFIT	Air Force Institute of Technology
AFSPACECOM	Air Force Space Command
AOC	Air Operations Center
AU	Air University
AWC	Air War College
C2	Command and Control
CADRE	College of Aerospace Doctrine, Research, and Education
CCAF	Community College of the Air Force
CIA	Central Intelligence Agency
CTBT	Comprehensive Test Ban Treaty
DCI	Director of Central Intelligence
DISA	Defense Information Support Agency
DOD	Department of Defense
ICBM	Inter-Continental Ballistic Missile
JAOC	Joint Air Operations Center
JCCC	Joint Communications Control Center
JSCC	Joint Space Component Center
JF	Joint Forces
JFACC	Joint Forces Air Component Commander
JFC	Joint Forces Commander
JFCC	Joint Forces Component Commander
JFSCC	Joint Forces Space Component Commander
JV	Joint Vision
MOA	Memorandum of Agreement
NIMA	National Imagery and Mapping Agency
NMS	National Military Strategy
NRO	National Reconnaissance Office
NSA	National Security Agency

NSP	National Space Policy
NSS	National Security Strategy
OSD	Office of the Secretary of Defense
OST	Outer Space Treaty
SAAS	School of Advanced Airpower Studies
TV	Television
UCMJ	Uniformed Code of Military Justice
UN	United Nations
US	United States
USA	United States of America
USA	United States Army
USAF	United States Air Force
USMC	United States Marine Corp
USN	United States Navy
USSPACECOM	United States Space Command
USSR	United of Soviet Socialist Republic (Soviet Union)
WMD	Weapons of Mass Destruction

Astronaut. A person who travels beyond the earth's atmosphere; *also*: a trainee for space flight

Belligerents. (1) Waging war; *specifically*: belonging to or recognized as a state at war and protected by and subject to the laws of war; (2) inclined to or exhibiting assertiveness, hostility, or combativeness

Communications. The technology of the transmission of information (as by print or telecommunication)

Contraband. Illegal or prohibited traffic in goods

Deception. (1) The act of deceiving; (2) the fact or condition of being deceived; (3) something that deceives

Degradation. Decline to a low, destitute, or demoralized state

Denial. (1) Refusal to satisfy a request or desire; (2) refusal to acknowledge a person or a thing

Destruction. The action or process of destroying something

Disruption. To throw into disorder <agitators trying to *disrupt* the meeting

Doctrine. A principle or position or the body of principles in a branch of knowledge or system of belief

Expunged. To strike out, obliterate, or mark for deletion

Maritime. Of, relating to, or bordering on the sea

Navigation. The science of getting ships, aircraft, or spacecraft from place to place; *especially*: the method of determining position, course, and distance traveled

Orbit. A path described by one body in its revolution about another (as by the earth about the sun or by an electron about an atomic nucleus); *also*: one complete revolution of a body describing such a path

Ratified. To approve and sanction formally

Reconnaissance. A preliminary survey to gain information; *especially*: an exploratory military survey of enemy territory

Satellite. A manufactured object or vehicle intended to orbit the earth, the moon, or another celestial body

Sovereignty. Freedom from external control

Space. The region beyond the earth's atmosphere or beyond the solar system

Space Objects. Man-made objects orbiting the earth

Surveillance. Close watch kept over someone or something

Utopian. Impossibly ideal

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