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Intercontinental Ballistic Missiles

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Abstract

The foundation of Intercontinental Ballistic Missiles (ICBM) is a comprehensive understanding of history, world stabilization, and its capabilities; this missile has not only stabilized the world but remains a key protector of American security; its cost far outweighs the absorbent expense associated with maintaining them in our military arsenal. The United States and their allies have placed rules and laws on the use of ICBMs to ensure global security and domestic stability. These policies were vital in winning the Cold War and progressing Eastern countries toward downsizing their ICBM stockpiles. The emergent of rogue and terrorist backed countries with possible ICBM capabilities has forced the United States to view different policies, defensive, and offensive strategies for protection against ICBMs. The United States sole protection against ICBMs has been exclusively political influence and offensive fire power. However, over the past decade countries such as; Iran, China, North Korea, and possibly Syria have clearly advanced their nuclear technology and capabilities both covert and overt. These countries aggressive moves toward nuclear weapons have exhausted diplomatic diplomacy and the threat of offensive fire power. Therefore, the United States has been forced to develop a defensive weapon system capable of protecting its homeland and allied countries. Strategic Command (STRATCOM) is to deter and manage counterattacks in case of a nuclear attack. To do so successfully; land-based silos, Multiple Independent Target Reentry Vehicles (MIRVs), U.S. Aircraft Bombers, and Nuclear Submarines must be able to deliver retaliation response without error. Credited is the United States nuclear plan for maintaining world peace. However, without diplomatic diplomacy and the development of a future defensive weapon system the permanence of the free world may cease to exist as we know it today.

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Intercontinental Ballistic Missile

The Intercontinental Ballistic Missile (ICBM) has a long and rich heritage in the United States and across the world as a protector of nations. Although the ICBM is primarily an offensive weapon, it protects nations because of its high threat of retaliation. If a nation that does not possess ICBM technology invades a nation that does, they risk the threat of receiving an ICBM attack. This offensive threat has kept nations such as Israel in the Middle East safe for many years against its enemies in the region. The foundation for the study of ICBM is a comprehensive understanding of the definition and history of the world stabilizing missile; this missile has not only stabilized the world but remains a key protector of American soil. As a military superpower and an economic giant, America must consider if the ICBM is worth the millions of dollars spent yearly to maintain.

ICBM Defined

According to Wikipedia, ICBMs are extremely long reaching missiles with a range greater than three thousand miles. These missiles are normally designed for the purpose of delivering nuclear weapons to enemy territories. Different ICBMs are designed to carry various amounts of nuclear war-heads from one to ten war-heads in most cases. They are a very versatile missile that can be launched in a multitude of ways including; land based silos, submarines, mobile land based vehicles or mobile transporter-erector launchers (TEL) and nuclear aircraft bombers. All 5 countries of the United Nations Security Council possess working ICBM programs. These nations include: the United States, China, Russia, India, and Japan. There are many other nations who own ballistic missiles that have a shorter range than the ICBM. Most notably, the Iraqi Army used ballistic missiles against the United States during Operation Desert Storm and Operation Iraqi Freedom. These missiles can carry nuclear weapons, chemical

weapons, and a variety of other weapons of mass destruction, (Wikipedia.com, 2006). The Iraqi version of the short range ballistic missile had a poor guidance system and was not very effective in defensive or offensive tactics. These missiles were little more effective than the catapult in ancient times. However, in the beginning of the Gulf War their missiles were effective mentally since other nations did not know their capabilities.

Further ICBM

According to another website, the definition of an ICBM is; a supersonic missile with a range of over three thousand four hundred feet and follows an established trajectory. This missile must have a powered and guided launch process and normally falls from the sky deploying its war-heads, (Infoplease.com, 2000). According to both definitions the range of an ICBM is well over three thousand miles, which is the main characteristic that separates the ICBM from the many types of ballistic missiles in the world arsenal. Now that we have a good understanding of what an ICBM is we must understand how they came about and what their posture is today in the world community.

ICBM History

Many people would answer “America” if asked what country first developed the Intercontinental Ballistic Missile. Those individuals would probably be surprised to find out that ICBM technology was first developed by Nazi scientists for the bombing of New York and other prominent American cities during World War II. The lead scientist in this undertaking was Wernher Von Braun who worked under the Project America initiative. By the end of World War II, Wernher had developed many rockets from this initiative which were used to bomb Belgium and English cities in Europe. These rockets were known as the V-2 rockets, all of which used liquid fuel for propulsion. Once the allied forces defeated Germany and their allies in World

War II, the United States secretly brought Wernher Von Braun and other German scientists to America to further our technology on rockets. This study eventually resulted in the discovery and production of the ICBM. America was not the only country striving to develop rockets or missiles that would cross oceans, (Wikipedia.com, 2006).

Russian ICBMs

Russia, then known as the USSR, began their own study of intercontinental rockets with the capability to transcend into space. Sergey Korolyov began work to develop an ICBM in 1953 after assembling captured parts from the German rocket projects. He eventually developed his own rocket called the R-7. The R-7 was the rocket that put the first satellite into space called Sputnik in October, 1957, which officially began the Cold War with the United States. The United States was also working on a method by which to place items into space. The U.S. eventually developed the Atlas A Missile, which successfully flew just months after the Russians launched their R-7 model, (Wikipedia.com, 2006). I personally feel that the American congress would not have funded the ICBM program, if Russia had not beaten us into space. These first ICBM programs were very expensive and required a very large area for launching.

Changing Technologies

Many countries began production of ICBM programs but later abandoned the projects due to cost and the requirement for large areas of land to perform launch testing. Once ICBM technology was developed and perfected, both the United States and the USSR, began work on methods to defend against the missiles. If a country could perfect the ICBM technology and defend against ICBMs, that country would become a major threat to all other nations. During Ronald Reagan's presidency the Strategic Defense Initiative and the Midgetman ICBM programs were launched. As a result of these programs treaties were signed by the major world

powers to reduce their number of ICBMs, (Wikipedia.com, 2006). The United States military have developed many ICBMs over the years that have become famous in Cold War Hollywood movies. Some of these missiles include the Atlas A and Atlas D Missiles, the Titan II and the Minuteman I Missiles. Today the most modern form of the ICBM is the Peacekeeper Missile, (VCE.com, n.d.). The very name of this missile ties directly into the thesis of this paper. The name suggests that by possessing this missile our country is a little safer from outside invasions. It also suggests that the United States is not afraid to use this missile to keep the peace where necessary.

Recent History of the ICBM

In recent history, the United States has moved from the liquid fueled missiles to solid fueled missiles of today. These missiles include the Minuteman II, III, and the Peacekeeper missile. The solid fuel is designed to burn continually until the missile reaches its target. Not only does this method provide for longer and more accurate flight times, but a back up cell is included for emergency purposes as well. In today's world the ICBM is used primarily for space technology for countries around the world; however, many nations maintain ICBMs for offensive and defensive postures. The multipurpose use of the ICBM can cause confusion for outside nations. These nations may have a difficult time determining if a U.S. fired space ICBM is for space exploration, or an attack, (FAS.com, 1998).

Nations with ICBMs

Russia is the major concern for the United States and has been for over a half of a century. As the United States develops new technology for ICBMs Russia is not far behind. Although Russia has experienced much financial difficulty since the end of the Cold War they still maintains an arsenal of SS-24 ICBMs, which are directly compared to the American

Peacekeeper missile. Currently there are 7 nations including: the United States, Russia, China, France, Japan, India, and Israel that have successfully launched space vehicles. This shows their capability to produce an ICBM and use it. At a cost of around fifty million dollar per missile most countries cannot afford an ICBM program. It is important; however, to maintain intelligence on potential threats like North Korea, Lybia, and Iran. These countries have the ability to manufacture ICBMs but currently face strong scrutiny from other world powers, (FAS.org, 1998).

Intercontinental Ballistic Missile Policies

The importance of the diplomacy, policies and laws for the uses of the Intercontinental Ballistic Missiles (ICBM) has ensured world stability during our lifetime, and maybe that of the next generation. The United States of America and the world have placed rules and laws on the ICBM to ensure global stability and security. These policies have assisted the United States in winning the Cold War and assisting the Eastern Block countries with the downsizing of their ICBM stockpiles; without these policies stability of the free world may cease to exist.

History of ICBM Policy

The United States of America is considered by the world, the leader in the field of ICBMs. This tough but realistic stance is a large task and extremely complicated within itself. The United States National Security Council in the form of national security decision memoranda or National Security Decision Directives (NSDD) provides the general policy guidance for the ICBM; as they are now known. Currently all five of the nations with permanent seats on the United Nations Security Council have operational ICBM systems: submarine-launched missiles and land-based missiles. With all these nations having their own ICBM

program the United States must maintain its own programs while keeping a close watch on other nations through the process of treaties and political diplomacy, (ICBM, 2006).

Current US Military Policy

The current military doctrine for nuclear operations focuses on posturing and maintaining forces for deterrence, as well as on employing these forces, if required. Nuclear forces may be used to deter the use of Weapons of Mass Destruction (WMD), provide an edge against the emergence of an overwhelming conventional threat; signal military resolve and national will through graduated controlled increases in force readiness and control escalation and provide a decisive war-fighting force should deterrence fail. Nuclear forces also underwrite national arms control initiatives by providing positive and negative security assurances. The goal of nuclear operations is to maintain a stable, non-provocative nuclear posture in peacetime to deter an enemy's potential use of WMD. This will also serve as an edge against the emergence of an overwhelming conventional threat and provide a decisive war-fighting force, if deterrence fails, (CRS Report for Congress, Nuclear Weapons and U.S. National Security, 2003).

ICBM Treaties

The United States has three main goals with the ICBM program: National Security, World Security, and ICBM Reduction. The United States first and foremost principle is National Security. They accomplish this through diplomatic and defense systems. The Second is World Security the United States has treaties with all standing Nation States that have nuclear weapons has numerous ICBM policies with individual Nation States and the National Security Council. The longest lasting treaty on ICBMs was that of the 1972 Anti Ballistic Missile Treaty, United States President Richard Nixon and for the Union of Soviet Socialist Republics L.I. Brezhnev signed this treaty in 1972. This treaty stood for nearly 30 years until December 2001 when the

United States chose to exercise Article XV of the treaty, and withdrew from the treaty, (CRS Report for Congress, Nuclear Weapons and U.S. National Security, 2003)

The United States withdraw from the 1972 treaty was largely in due to the September 11, 2001 attacks on our homeland. These attacks demonstrated that the wars that we are fighting today are vastly different from those of the Cold War. During those times the United States and the Soviet Union were in a hostile relationship, with each side deploying and pointing thousands of ICBMs at the other. Our National Security rested in the situation of one side launching a nuclear attack at the other they would retaliate ensuring total destruction of both nations. With the United States withdraw from the 1972 Treaty this has now allowed us to build on our National Defensive capabilities otherwise banned by Article XI (b) of this treaty. Under the terms of this Article the United States is prohibited from defending its homeland against ballistic missile attack. We were also prohibited from cooperating in developing missile defenses against long range threats. This treaty was specifically designed for the Cold War between the United States and Russia this assisted in enabling terrorist nations to strike within our borders, (ICBM, 2006).

One day after the United States withdrew from the 1972 Anti Ballistic Missile Treaty, Russia withdrew from the Strategic Arms Reduction Treaty II of 1993. This treaty was designed for the United States and Russia to down size and destroy the Multiple Independently Targetable Reentry vehicle (MIRV). The MIRV is the most offensive ICBM in both the United States and Russia's inventory. This weapon can strike 1 to 10 targets simultaneously, thus depleting the others ICBMs while they will not have time to launch. In 2006, Russia announced that it is not going to destroy one hundred of their MIRVs, but refurbish them and keep them in the inventory until 2012. This has caused some friction between the United States and Russia. The only

remaining ICBM treaty between the two is the Strategic Offensive Reductions Treaty (SORT). This treaty limits the number of operationally deployed warheads to 1700-2200 for each country. The SORT treaty will expire in 2012 the same time that Russia has placed on its MIRV inventory, (ICBM, 2006).

Current Policy Threats

The largest current threat to the United States with the ICBM is Terrorist States and Rogue nations. The demise of the former Soviet Union and their downsizing of their nuclear stockpile have raised many questions in their nuclear program. When the Soviet Union fell their country broke down into separate states with their own governments and policy. What also went to these governments were the nuclear capabilities that fell within the newly defined borders. The United States routinely gives money to these states to assist with their storage and destruction of the nuclear weapons. This also provides the United States insight to what and who has the nuclear capabilities and ensures that this capability does not fall into terrorist hands. During 2002 the United States pledged \$21 Million to the nation of Ukraine to aide them on their nuclear destruction program; this is just one of many Nation States we continue to aide in the destruction and accountability of nuclear weapons, (ICBM, 2006).

Political Objectives

The United States continues to update its stance and political objectives with Democratic Peoples Republic Korea (North Korea) on their Nuclear and ICBM program. Since the cease fire of the Korean Conflict in 1953, the tension of the United States and North Korea has had its high and low points. With North Korea constantly gaining technology from rogue nation states they are now a nuclear threat. They have test fired the Tuepodong-XICBM that has a claimed range

of 6200 miles with a small warhead; this distance is capable of reaching the entire western coast line of the United States.

Non-Proliferation of Nuclear Weapons Treaty

The treaty of the Non-Proliferation of Nuclear Weapons (NNPT) is an international treaty that was started in 1968 to limit the manufacturing and spread of nuclear weapons across the world. Currently there are 186 Nation States that have signed the treaty and five on the treaty that have nuclear weapons: China, Russia, France United States and the United Kingdom. Three Nation States have refused to sign the treaty: India, Israel, and Pakistan. North Korea signed the NNPT in 1985 then violated the treaty in 1994 with plutonium weapons issues. Then in 2003, North Korea became the first Nation State to withdraw from NNPT Treaty. The United States and the United Nations deal with North Korea through political and diplomatic channels by imposing embargos and economic sanctions, (ICBM, 2006).

Protection against Intercontinental Ballistic Missiles

Diplomatic Diplomacy

The United States sole protection against Intercontinental Ballistic Missiles (ICBM) has been exclusively political influence, diplomatic diplomacy, and the known threat of ICBM retaliation. These strategies have worked for many years. However, over the past decade countries such as; Iran, China, North Korea, and possibly Syria have clearly advanced their nuclear technology and capabilities. These countries aggressive moves toward nuclear weapons have exhausted diplomatic diplomacy and the threat of offensive fire power. Therefore, the United States has been forced to develop different strategies for protection against ICBMs.

In accordance with Disarmament Diplomacy, Issue No. 36, April 1999, the very first resolution passed by the United Nations General Assembly (UNGA) in 1946 called for nuclear

disarmament. It is a testament to the failure of the hopes represented by the UN that there have been hundreds of resolutions calling for the same goal since then, all to no avail. The progress on nuclear arms control has become a case of one step forward, two steps back. Despite the end of the Cold War and collapse of the Soviet Union, the conclusion of a Comprehensive Test Ban Treaty, after more than forty years of effort, and despite the judgment by the International Court of Justice, the Canberra Commission report, and the public calls by numerous retired military and political leaders to abolish nuclear weapons, the goal of a nuclear weapon free world seems more distant now than it did a decade ago when, at the Reykjavik Summit in 1986, Presidents Gorbachev and Reagan discussed the elimination of nuclear weapons, (Mian & Ramana, 1999). It seems that another race toward ICBM armament has begun since 911. Terrorist supported countries such as Iran and the war in Iraq have made the possibility of diplomatic diplomacy even more impossible. Therefore, the push for a defensive weapon system is more important to the United States today, than nuclear disarmament or the elimination of nuclear weapons.

Terminal High Altitude Area Defense System (THAAD)

In accordance with Programme for Promoting Nuclear Non-Proliferation the United States Congress has authorized the Department of Defense (DOD) to spend \$1 billion more on the development of antimissile defense system than the \$4 billion originally asked for. Senior pentagon officials had advised against this increase. A spokesman for DOD has said uses will be found for the money, although not all of it will go toward the Theater High Altitude Anti-Missile Defense system. The Defense Secretary has announced a revised strategy for the National Missile Defense System under which a 'deployment readiness review' would be held in 2001 to determine if the 'technical maturity' of the programme allowed it to move forward, (Richard Guthrie, 1998).

Despite these setbacks the first THAAD missile system will be activated at Fort Bliss, Texas in the summer of 2008. In accordance with Army-technology the THAAD missile system is an easily transportable defensive weapon system to protect against hostile incoming threats such as tactical and theatre ballistic missiles at ranges of 200km and at altitudes up to 150km. The THAAD system provides the upper tier of a 'layered defensive shield' to protect high value strategic or tactical sites such as airfields or populations centres. The THAAD missile intercepts exo-atmospheric and endo-atmospheric threats. The sites would also be protected with lower- and medium-tier defensive shield systems with the PATRIOT PAC-3, which intercepts hostile incoming missiles at 20 to 100 times lower altitudes, (Army-technology.com, 1996).

In accordance with the Missile Defense Agency the four main components: truck-mounted launchers, interceptors (eight per launcher), X-band radars, and fire control and communication units. Launcher; highly mobile, able to store, transport, and fire interceptors and reload rapidly. Interceptor; designed to intercept its target both in and out of the atmosphere using hit-to-kill lethality. Radar: the largest air-transportable X-band radar in the world. It provides search, track, discrimination and Fire Control updates to the Interceptor. Fire Control: Communication and data-management backbone; links Terminal High Altitude Area Defense components together; links these components to external units and to the entire Ballistic Missile Defense System; plans intercept solution. Rapid deployment; can be air-lifted anywhere in the world in hours. It is also sea and land transportable, (Missile Defense Agency, 2007).

PATRIOT Missile System

The Air Defense Artillery (ADA) PATRIOT missile system is a weapon system designed to kill and destroy tactical ballistic missiles (TBMs), cruise missiles, and advanced aircraft. The PATRIOT missile is equipped with a Track-Via-Missile (TVM) guidance system. The

midcourse correction commands are transmitted to the guidance system from the mobile Engagement Control Station (ECS). The target acquisition system in the missile acquires the target in the terminal phase of flight and transmits the data using the TVM downlink via the ground radar to the Engagement Control Station for final course correction calculations. In other words, the PATRIOT missile system automatically engages its target once the defensive unit's of assignment invisible foot print is broken. The PATRIOT missile system is a three phase tracking system that tracks by radar first, ECS second, and proximity third, which in most cases results into a one hundred percent kill rate. The course correction commands are transmitted to the missile via the missile track command uplink. The high-explosive 90kg warhead is situated behind the terminal guidance section, (Missile Defense Agency, 2007).

A new PATRIOT Advanced Capability (PAC-3) missile has increased effectiveness against tactical ballistic cruise missiles and aircraft if needed, through the use of advanced hit-to-kill technology. Lockheed Martin is the prime contractor with Raytheon the systems integrator. The PAC-3 has a Ka-band millimetre wave seeker developed by Boeing. The missile guidance system enables target destruction through the kinetic energy released by hitting the target head-on. 16 PAC-3 missiles can be loaded on a launcher, compared to four PAC-2 missiles, which is vital for continuous combat operations, (Missile Defense Agency, 2007). The new PAC 3 missile do not use proximity kill technology that was used during Desert Storm and Desert Shield, which allowed for incoming scud missiles to be hit but not destroyed in flight. It is important that the people of the United States and the government understand the importance of getting a missile defense system in place to protect against a possible future ICBM attack.

U.S. Intercontinental Ballistic Missiles Offensive Measures

The purpose of the United State's Strategic Command (STRATCOM) is to deter a nuclear attack. In the event deterrence fails, the current U.S. policy is to survive an initial nuclear assault and retaliate in a timely manner. Offensive Intercontinental Ballistic Missiles (ICBMs) launched from land-based silos are the primary nuclear weapon for delivering such a devastating blow. To do so successfully, modern ICBMs outfitted to carry multiple payloads, known as, Multiple Independent Target Reentry Vehicles (*MIRVs*) which carry a nuclear payload of up to ten war heads a piece into space and effectively destroy multiple targets without error. In addition to an offensive ICBM attack, U.S. Aircraft Bombers and Nuclear Submarines are also tasked with delivering America's retaliation response. The United States' Nuclear Offensive Plan has been credited with winning the cold war and maintaining world peace; thus, allowing for a more stable and peaceful globe.

Offensive Plans When Deterrence Fails

Prior to the Cold War ending in the late 1980's, the Soviet Union and the United States had manage to stock pile enough nuclear intercontinental ballistic missiles to completely obliterate each other. In 1946, Stalin and many soviet leaders deeply felt that a direct confrontation with the United States and the Western European powers was imminent. This belief along with U.S. policy and intelligence lead to the formation of the North Atlantic Treaty Organization (NATO) and the Iron curtain by the USSR. U.S. Offensive Plans were based on the USSR's rapid arsenal buildup. By the mid 1950s the U.S. Central Intelligence Agency (CIA) along with military intelligence grossly under estimated the Soviets military capabilities, manpower strengths, and nuclear weapons.

U.S. Cold War offensive plans were primarily based on a National Defensive Strategic Strategy. This strategy was based on a "Deterrence by Punishment," strategy. If the National

Defensive Strategic Strategy failed, the US would aggressively begin an immense counter attack with the intent to completely annihilate the attacker. The U.S. built ICBM nuclear silos deep into the ground to sustain direct hits, hid nuclear submarines in the vast deep oceans, and built flying fortresses with ranges of up to 6,000 nautical miles. This military buildup made the U.S. deterrence strategy against the Soviet Union extremely effective and deadly. A common psychological offensive strategy used by the U.S. during the Cold War against the Soviets was the, “Mutually Assured Destruction” (MAD) strategy. The MAD strategy made the USSR think twice of attacking the U.S. The USSR was forced to consider the implied consequences of a nuclear war, which is, total eradication of the human race and the effects of a nuclear holocaust. In essence, a good defensive plan ironically made an excellent offensive plan. During the Cold War the U.S. kept the Soviets from attacking America with a strong and reliable, “Deterrence by Punishment” and “MAD” strategic strategy.

Fifteen years after the collapse of the Soviet Union the United States government found itself upgrading the efficiency and killing radius of its nuclear weapons to attain an advance fighting edge on an ever changing asymmetrical warfare environment. Older weapons have been replaced with more accurate and deadlier systems. Fighter bombers, nuclear submarines, ICBMs, and warships have been outfitted with advance technologies at the cost of billions per year. The DOD has been provided new presidential guidance to transition from a Cold War top-heavy offensive strike force to a smaller, flexible, agile, and versatile nuclear force that will defeat today’s U.S. adversaries. The DOD as OPLAN (Operations Plan) 8044 commonly refers to this new presidential initiative.

Armament Demands of the SIOP

According to an article written by Jack A. Smith of the Global Research.ca, Centre for Research on Globalization, “The United States continues to spend billions of dollars annually to maintain and upgrade its nuclear forces,” according to an article titled “U.S. Nuclear Forces 2006” in the January-February issue of the prestigious Bulletin of the Atomic Scientists. “It is deploying a larger and more accurate preemptive nuclear strike capability in the Asia-Pacific region, and shifting its doctrine toward targeting U.S. strategic nuclear forces against ‘weapons of mass destruction’ complexes and command centers, (Cold War ICBM 1945-Present, 2005).

Different types of delivery systems

According to Cold War ICBM 1945-present, a ballistic missile is powered early in its flight and then follows an un-powered trajectory to its target. During the Cold War, both the United States and the Soviet Union developed Inter-Continental Ballistic Missiles (ICBMs), which are capable of reaching any target in each other's territory. ICBMs could deliver nuclear weapons in a manner that was virtually immune to defensive measures. Arms limitations treaties between the superpowers have reduced the number of ICBMs deployed by each side, (Cold War ICBM 1945-Present, 2003).

America’s entire land-based nuclear ICBM arsenal consists’ of 500 Minuteman III missiles. All other ICBM variants were either discontinued in 2005 or destroyed IAW a series of Strategic Arms Reduction Treaties, (START I and II). The U.S. Air Force has awarded the delicate management of our total land-based nuclear inventory to the Northrop Grumman Corporation until 2013. The Air Force is working diligently at modernizing its current supply of Minuteman III missiles to ensure this missile system remains at a high state of readiness and part of our nuclear strategic system until 2030. The Minuteman III missiles systems are spread out along the Northern Rocky Mountains (around three Air Force bases) in harden silos dug deep

into the earth to protect them from a direct attack. Hardened underground cables connect the silos' command and control centers to one another, which provide the President and the Secretary of Defense with instantaneous feedback status and a link with the launch crew during attacks. Should communication fail between the Commander in Chief and the silo crew, a modified Boeing 707 with a qualified missile crews once airborne automatically assumes command and control over the damaged silos. In theory, once airborne, the airborne crew would assume automatic and manual control and execute launch procedures on the President's command from the airplane.

Delivery Systems

The Enola Gay, a B-29 Super fortress was the first U.S. long range bomber to drop the atomic bomb, "Little Boy" over Hiroshima Japan during World War II. Since then, the American government has spent billions on developing a large fleet of nuclear bombers to counter a potential nuclear attack from the Soviet Union during the Cold War. The beginning of 1946 found the U.S. using these nuclear bombers as part of its deterrence policy by flying them armed in the sky 24 hours a day seven days a week. This technique however proved to be extremely dangerous and expensive.

Today's US military was structured around a "two war" philosophy. Which, the U.S. has to maintain enough military muscle to fight two major wars simultaneously. The Air force is currently building its nuclear aerial arsenal around the B-52s, B-2s, and B-1 bomber air frames. It is estimated that approximately 190 long range bombers will be required to meet our "two war" philosophy. It is predicted that our current nuclear long range bombers will provide 35 to 40 more years of reliable and dependable service.

One of the most deadly usages of a nuclear weapon is in the form of a nuclear fired missile from underwater. The innovation of nuclear submarine launched ballistic missile system proves to be one of the most effective forms of first strike and deterrence strategies known to man. Nuclear submarines can be immune to an opponent's first strike. After the initial engagement, submarines can emerge from hiding to return a devastating retaliatory strike. Employment of nuclear submarines worldwide makes it virtually impossible for the Russians to know their own vulnerabilities from their own coastline before launching a first strike attack against the U.S. At this time the U.S. Navy has fourteen Ohio-class nuclear submarines deployed worldwide, each with exactly twenty four Trident II missiles. Each Trident II missile is configured to release multiple nuclear warheads using the Multiple Independently Target Reentry Vehicles (MIRVs) on a single launch. By far, the US nuclear submarine serves as an excellent tool for an offensive first strike and defensive deterrence strategic strategies. The U.S. Navy's nuclear submarine arsenal is by far a serious component of America's nuclear fire power.

Conclusion

Nuclear disarmament will not be achieved through political influence, diplomatic diplomacy, or the known threat of ICBM retaliation. These strategies have worked for many years. Countries such as; Iran, China, and North Korea, and have clearly advanced their nuclear technology and capabilities. These countries aggressive moves toward nuclear weapons have exhausted diplomatic diplomacy and the threat of ICBM retaliation. Therefore, the United Stated has no choice but to develop a defense weapon system to protection against ICBMs. To be the only country in the world with defensive protection against ICBMs will force rogue and terrorist backed countries to comply with nuclear disarmament for fear of total annihilation.